

the Air  
ars of  
is  
ER  
ICE  
WIS.  
TION  
oil  
N  
lubri-  
motor  
of war  
details  
Y  
41-19  
osts  
edules  
ARINGS  
OR AG

mering  
Library

OCT 24 1944

# MOTOR AGE

OCTOBER 1944



A CHILTON PUBLICATION

BRADLEY



# Soft pressure does it . .



**. . in every cylinder condition**



Steel-Vent is different—because it employs the *soft pressure* principle.

Millions of Steel-Vent installations have confirmed the basic soundness of the soft pressure principle in every cylinder condition.

Soft pressure stops oil-pumping and checks

cylinder wear—in rebores and resleeves as well as in extreme tapers.

**Soft Pressure does it—in Rebore, too**

A large bus operator says this about Steel-Vents: "During the past four years we have been using them in our rebores jobs. *We are getting longer life out of these rebores jobs than ever before, and the cylinder wall wear has been less at all times.*"

**HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN**

Hastings Mfg. of Canada, Ltd., Toronto

*It's a privilege  
to buy War Bonds*

## **HASTINGS** STEEL-VENT **PISTON RINGS**



U. S. PAT. 2,148,997  
**TOUGH ON OIL-PUMPING GENTLE ON CYLINDER WALLS**

# Plan Helps Dealers!

## GREATER PROFITS FOR AUTO-LITE R.S.D. DEALERS

Dealers signing the Auto-Lite RSD agreement have the opportunity of stocking wire and cable on an optional assortment plan.

### ASSORTMENT No. 1

Offers Spool Cable, Spark Wire Sets, Battery Cables, Terminal and Battery Bolts in one complete package to service the majority of cars.

### ASSORTMENT No. 2

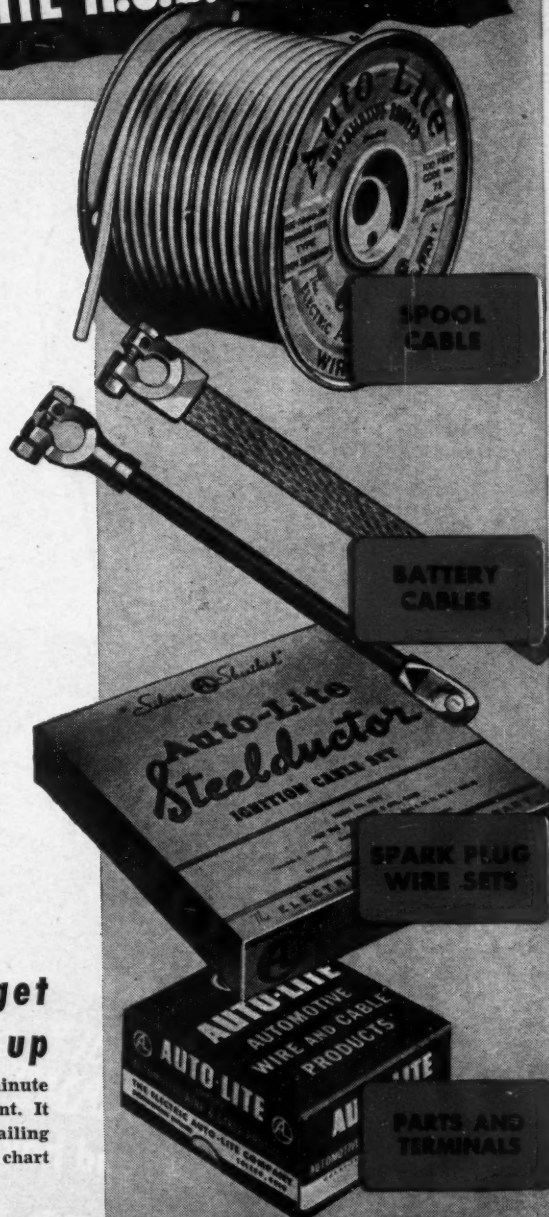
Includes the same items, in kit form, but in addition permits a selection of any one of the kits rather than the complete assortment as long as the order totals the minimum amount required at RSD prices. Extra discounts are comparable in every case. In all cases, the RSD agreement entitles the dealer to fill-in orders at RSD prices.



Tune in "Everything for the Boys" Starring Dick Haymes, Tuesday Nights—NBC Network

### ... What you get when you SIGN up

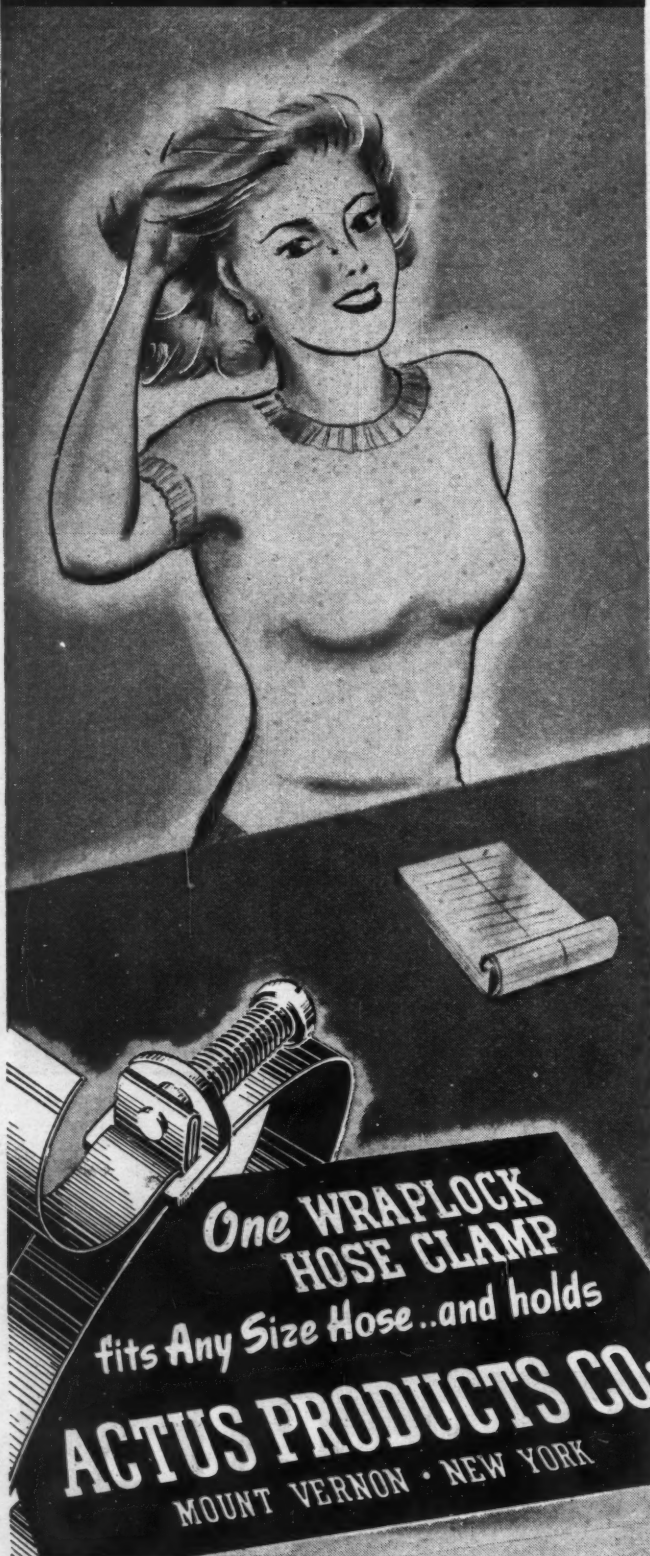
Your big display kit comes the minute you sign the RSD plan agreement. It includes all weather banner, mailing pieces, radio broadsides, flat rate chart and other items.



# Wire and Cable



"I can't sell him anything  
but WRAPLOCK  
Hose CLAMPS"



# MOTOR AGE

With Which Is Combined **AUTOMOBILE TRADE JOURNAL**

**FOR AUTOMOTIVE SERVICEMEN**

Vol. LXIII, No. 11

October, 1944

**JULIAN CHASE**, Directing Editor  
**W. K. TOBOLDT**, Editor  
**J. EDWARD FORD**, Managing Editor  
**J. K. MONTGOMERY**, Asst. Tech. Editor  
**JOS. GESCHELIN**, Detroit Tech. Editor  
**J. A. LAANEMA**, Merchandising Editor  
**J. ROBERTSON TURNER**, Tech. Editor  
**HOWARD KOHLBRENNER**, Art Editor  
**LEONARD WESTRATE**, Detroit News Editor  
**M. AINSWORTH**, Specifications Editor

## In This Issue

Slants on the News.....	17
Can We Get New Cars by Spring? By Leonard Westrate	20
Laying Out the Post-War Shop...By Bill Toboldt	22
Diagnosing Engine Noises.....	24
Hot Tips on Cold Plugs.....By J. Edward Ford	26
Veteran Dealer Makes Service Pay.....	28
Finish Coats That Last.....By Bob Turner	30
Shop Thrives on Super Service By George H. Watson	32
Power Brakes and Post-War Safety.....	33
Did You Know It?.....	34
New Profit Makers.....	36
Laughs of the Month.....	37
Washington Rules and Regulations.....	38
Service Hints from the Factories.....	41
Shop Kinks .....	42
Readers' Clearing House.....	43
Legally Speaking .....	82
Advertisers' Index .....	166

Copyright 1944 by Chilton Company (Inc.)

### Automotive Division

**Jos. S. HILDRETH**, President and Manager

**JULIAN CHASE**, Vice Pres.

**G. C. BUZBY**, Vice Pres.

Offices: Philadelphia 39, Pa.—Chestnut & 56th St., Phone Sherwood 1494.  
New York 17, N. Y.—100 E. 42nd St., Phone Murray Hill 5-8600, Chicago 1.  
Ill.—Room 916 London Guarantee & Accident Bldg., Phone Franklin 4241.  
Detroit 2, Mich.—1015 Stephenson Bldg., Phone Madison 2090, Cleveland 14.  
Ohio—809 Guardian Bldg., Phone Cherry 4185, Washington 4, D. C.—1061 National  
Press Bldg., Phone District 3109, 3110, San Francisco 5, Cal.—805 Market St.,  
Room 708, Phone Douglas 0947, Los Angeles 1, Cal.—8000 Miramonte Bldg.,  
Phone Lafayette 5525. Member of Audit Bureau of Circulations. Member of  
Associated Business Papers, Inc. Subscription Price: United States and Possessions,  
Latin-American Countries, \$2.00 per year; Canada and foreign, \$3.00 per year.  
Single copies, 25c.

Owned and Published by  
**CHILTON COMPANY**  
(Incorporated)



### Executive Offices

Chestnut and 56th Streets, Philadelphia 39, Pa., U. S. A.

### Officers and Directors

**C. A. MUSSELMAN**, President

### Vice Presidents

**JOSEPH S. HILDRETH** **GEORGE H. GRIFFITHS**  
**EVERIT B. TERHUNE** **J. H. VAN DEVENTER** **C. S. BAUB**  
**WILLIAM A. BARBER**, Treasurer **JOHN BLAIR MOFFETT**, Secretary  
**JULIAN CHASE** **THOMAS L. KANE** **G. C. BUZBY**  
**P. M. FAHRENDORF** **HARRY V. DUFFY** **CHARLES J. HEALS**

## SLANTS ON THE

## News

**Experimental Work Brings Model Changes Nearer**

**A**LTHOUGH the qualified permission given General Motors, Chrysler, and Ford to work on experimental models of new cars will not permit a tremendous amount of such work to be done, the news is interesting for two reasons. It indicates that the necessity of preparing for quick reconversion is being taken seriously by the WPB and also that the oft-repeated prediction that the first cars to be built after the war are to be 1942 models may have to be revised.

Experimental work on new models is not even a start on reconversion in the accepted sense. Reconversion includes the preliminary step of contract termination, then clearing the automobile plants and those of their suppliers of special arms-making machinery, and finally the reinstallation of automobile production lines. Except for cut-backs in certain types of products, none of these things has yet been attempted. However, the experimental work now allowed should permit the factories affected to clarify their thinking on post-war production problems.

Whether there will be time for the factories to design completely new cars, and whether they will decide to produce 1942 models while improved models are still in the blueprint stage, are questions that

cannot as yet be answered. It seems safe to assume, however, that any 1942 models built will be quickly superseded.

**Shortage of Truck Tires Extends to Smaller Sizes**

**H**OPE that a crisis in the truck-tire situation could be averted has apparently been blasted by the drastic cuts in fourth-quarter allocations, not only of the bigger tires but also of the medium sizes. The number of big tires to be made available during the period is about half that considered absolutely essential by the ODT and the number of medium-sized tires to be allocated is equal to only three-quarters of estimated needs.

Rising military demands are blamed for the necessity of cutting civilian allocations.

Our armies must be supplied; there is no question about that. Yet it is inconceivable that either military or civilian authorities could have so underestimated our needs

---

The shop of the future, whether it is a dealer's or independent, must be planned not only for convenience but also with an eye to the impression it will make on the customer. A few ways in which both goals can be achieved are discussed in the article on Page 22.

---

in the fields as to cripple vitally necessary transport at home. It is impossible to imagine our armies advancing victoriously with essential transport disrupted at home.

Synthetic rubber is available for all necessary tires. Lately, it has been reported that the manpower bottleneck has been broken to some extent, and that production is rising. Nevertheless, a critical period of some months is inevitable. It is time for the numerous government agencies to recognize the gravity of the situation and act accordingly.

**Civilian Activity Hinges On Nature of Jap War**

**N**OW that anonymous but supposedly highly placed American officials are guessing that the European phase of the war will end by late October or early November, it is not too soon to be thinking seriously about business, particularly the critical period between the time fighting stops in Germany and the time factories are wholly reconverted.

Washington bureaus are announcing plans in such profusion that it is difficult to fill in the details of any post-war plan. The approaching election prevents Washington from revealing anything without first considering its effect on the voting. Consequently we are hearing a good many conditional



pans, such as the OPA's proposal to relax rationing restrictions but retain price fixing until the "emergency" passes, and the WPB's promise to permit unlimited civilian production as long as it does not interfere with the war against Japan. These announcements are open to almost any interpretation.

The truth seems to be that no one is quite certain what effect the defeat of Germany will have on our domestic economy. Everything will depend upon the type of war we elect to wage against Japan, its intensity, and the amount of help we get from our Allies.

Nevertheless, the broader aspects of the picture are clear. Business will gradually resume its peacetime character and tempo. Wise dealers and servicemen will begin now to think in a general way about advertising and sales promotion, the training of sales staffs, new equipment, plant additions, and the other matters that mean the success or failure of a business in peacetime. Details can wait until victory.

### Dealers' Stock Reflect Improved Parts Situation

EVIDENCE of the easier situation in replacement parts is revealed by the recent survey conducted by the National Automobile Dealers Association. Between April 1 and Aug. 1 this year, parts inventories of the dealers surveyed increased 10.7 per cent. The improvement was not due to lagging sales, because sales jumped 5.4 per cent in the same period. The increase was due solely to the fact that the over-all parts production picture improved.

The soundness of this inference is shown by contrasting the April-to-August period with the 15 months preceding April 1. During the earlier period, sales gained 45.1 per cent, while inventories increased only 15.5 per cent, which resulted in a sharp shrinkage of stocks.

The figures, of course, are for the

country as a whole. In some sections, the parts situation is more encouraging than the figures show while in others it is less so. In the South, for example, sales outgained parts by a considerable margin, with the result that stocks there are tighter than in other sections.

### Service to Be Mainstay In Reconversion Period

ONE thing seems to be clearly indicated about the between-the-wars period. The demand for automotive service gives every promise of expanding rapidly as soon as wraps are taken off the automotive business, following the fall of Germany.

As shown in an article in this issue of MOTOR AGE, some uncertainty exists as to the date on which car factories will be permitted to begin reconversion, as well as to the date on which production lines will start to roll and the number of passenger cars factories will be permitted to build. Ford, Chrysler, and General Motors already have been granted permission to spend limited amounts on the development of experimental models, but this falls far short of authorizing them to remove war machines and install peacetime equipment. Up to now, the WPB has favored some quota system of production for an indefinite period following the war. Without trying to choose among the predictions, it is safe to say that months will elapse before new cars in quantity are seen.

In the meantime, several signs point to a more liberal use of automobiles when fighting stops in Europe. The Petroleum Industry War Council has declared that a European armistice should make more gasoline available for civilians, although no figures on the drop in military requirements are to be had.

The supply of tires, which must be more plentiful than at present if cars are to roll up miles again, is dependent upon the rubber situa-

tion. Natural rubber will be out of the question until the rubber-producing areas seized by the Japs are reconquered. However, the production of synthetic-rubber tires ought to leap, once the control of labor supply by the WMC is lifted.

For the independent repair shop, as well as for the dealer awaiting the receipt of new cars, service seems to offer the greatest possibility of maintaining profits during the reconversion period.

### Army Releases 18,000 Trucks for Civilians

IF production and Army surpluses were the only factors involved, truck operators could look forward to a more nearly adequate supply of new vehicles in the last quarter.

Production of heavy and medium trucks during the first five months of the year for civilian use totaled 50,540. The Army early last month announced the release of 18,000 trucks as surplus material. The aggregate of 68,540 vehicles is the greatest number made available since war began, and indications are that production of civilian trucks was stepped up in the months since July.

If new tires were to be had for the new vehicles, they would go far toward meeting the most pressing needs. As things stand, some of them are likely to be stranded on dealer floors for lack of tires.

### Washington Sees Car Shortage Under Bed

DESPITE all the evidence that has been presented to the contrary, Washington persists in looking under the bed to find an alarming shortage of passenger cars. "More than 4000 cars a day are being scrapped, going off the highways permanently," says a recent OWI release, "a total of 1,500,000 estimated for 1944."

An article in the September MOTOR AGE showed that, based on the experience of the first five

## SLANTS ON THE

# News

months of 1944, only 638,000 cars will be junked this year. That is at the rate, not of 4000 a day but of only 1700.

Furthermore, the OWI has now seen fit to set the essential minimum at 20,000,000, the figure fixed early in the war by the Brookings Foundation. Now, says the OWI, we must raise the minimum because the cars owned by essential drivers are being driven harder than others and are breaking down first. In view of the present supply of replacement parts, about the only reason for a passenger car's "breaking down" permanently is a collision with a stone wall.

Everyone in the automobile industry would like to see passenger cars coming off production lines again. In this longing, factories, dealers, servicemen, and even editors of automotive publications, are united. But it is one thing to wish that production could be resumed and quite another to get the country panicky over a wholly invisible lack of passenger cars.

If Washington really wants to worry, it might look into the truck situation, where the failure to provide an adequate supply of big tires threatens to force thousands of vitally needed vehicles off the road by the first of next year.

### Rationing of Used Car Hinted by OWI Report

ONE possible explanation of the OWI's eagerness to create the impression that the country faces a famine of automobiles may be the OPA's rumored intention to ration used cars. This has been a favorite practice with Washington bureaus ever since the war started. Once the country has been properly impressed with the scarcity of a certain commodity, rationing then will be accepted with less grumbling than it might be otherwise.

The OPA has remained mum about used-car rationing. At present there is no foundation for any report that such action impends.

But it should occasion no surprise to find, some bright morning, that rationing has been decreed for used cars.

### NADA Offers 12-Point Dealer-Factory Plan

ONE of the most comprehensive of post-war plans has been drawn up by the National Automobile Dealers Association. Containing 12 provisions, the program has been advanced as the NADA position on the questions involved, to be used as a starting point at conferences between the dealers and factories on post-war problems.

Most of the proposals have to do with contractual relations between dealers and factories. They suggest the possibility of longer discounts on cars, expansion of parts distribution through dealers, elimination of fleet discounts on parts, and termination clauses more acceptable to dealers. Further, they ask that dealers be appointed in strict proportion to the sales potential of the area, restriction of dealer sales to the area in which he is located, and adjustments on superseded models. The NADA further proposes that factories announce their post-war distribution plans as soon as possible.

No mention is made of licensing or other control of factory-dealer relationships by government. The proposals, in the NADA's opinion, include practically all the changes and modifications necessary to promote cordial and profitable relations.

The NADA suggests that a committee of representative dealers be

appointed to meet with a similar group of factory men, or, if this be not agreeable to the factories, to name committees from each group of dealers to meet with representatives of the factory producing the line of cars which they sell.

This is a forthright approach to a series of questions that will assume increased importance after the war. In view of the modifications already made in factory-dealer relations, much good may come of it.

### OPA Foresees 1942 Prices For Post-War Products

ANOTHER point of difference between bureaucracy and business was revealed last month when Price Administrator Chester Bowles declared that his aim is to hold prices of civilian goods to 1942 prices when production of articles now banned is resumed. Automobiles were one of the products which Bowles said would not necessarily have to be priced higher after reconversion, although "new" prices might have to be established. He did not elaborate on how the new prices might differ from those of pre-war.

Industry spokesmen have consistently asserted that the price of post-war cars will be 20 to 35 per cent higher than those for comparable pre-war models. They have excellent reasons for their predictions. Wages and material prices have skyrocketed since war began and there is no basis for belief that they will fall to pre-war levels as soon as the fighting stops. In fact, certain labor leaders are already campaigning to maintain wages at war levels even when peace comes. If car factories are thus to be squeezed between high costs and artificial price ceilings, they simply cannot afford to build automobiles. No one has been silly enough to suggest that the country can get along without automobiles. Consequently, the OPA price goal is likely to remain a wish.

---

**Engines noises can sometimes give a man the jumping jitters when he tries to locate the cause. The chart starting on Page 24 will save the busy repairman both time and headaches. The concluding article in the series on painting, on Page 30, tells how to get a good finish.**

---



# Can We Get

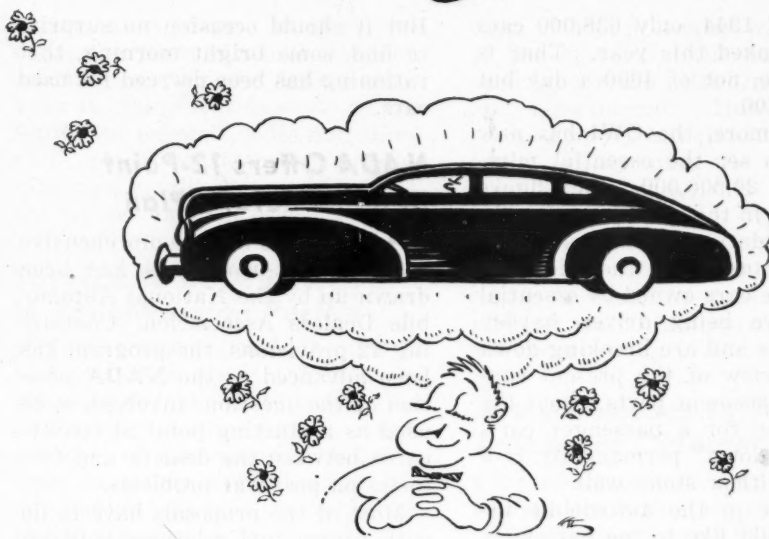
# New Cars by

**N**EW passenger cars — when? The only answer to that question is that there is no definite answer. After a survey of the automobile industry, it is painfully apparent that there are so many uncertainties and unknown factors upon which the starting date of new car production hangs that any predictions made are so hedged around with qualifications as to be of little value.

Everyone knows, of course, that leaders in the automobile industry have forecast possible starting dates and that there is considerable discrepancy among them. Estimates of the time needed to get into production after "Go" day, generally acknowledged to be coincident with the fall of Germany, range from a low of 60 days, forecast privately some months ago, to as high as nine months. To understand this seeming difference of opinion, it is necessary to realize what conditions the forecaster may have had in mind. The lowest estimate undoubtedly was based on the assumption that all necessary preliminary work would be done well in advance of "Go" day, whereas the longer estimate assumed that "Go" day would find the industry in the entirely unprepared state that it now is in. In a recent poll, industry leaders were asked to estimate how long it would take to get into production if "Go" day were Oct. 1, and also how long it would take if "Go" day were delayed until all necessary preparation had been authorized by the government and completed—leaders made the following estimates:

	"Go" day, Oct. 1	"Go" day later when preparations are complete
Ford .....	6 to 8 months	3 to 4 months
Nash .....	No opinion stated	3 to 4 months
G.M. ....	8 to 9 months	3 to 4 months
Chrysler ...	6 to 8 months	3 to 4 months
Packard ...	8 to 9 months	4 to 6 months

In explaining why it is so difficult to make a prediction of the time required, K. T. Keller, presi-



**Industry leaders feel production can be resumed within six to nine months after Nazis quit, provided Washington adopts clear-cut, cooperative policy**

**By LEONARD WESTRATE**

dent of Chrysler Corp., said there are so many intangibles to deal with that no one knows the answer. He pointed out that the automobile industry, the hotbed of war production, will bear the brunt until the end of the war with Japan, and that until the industry knows what is needed for that war and in what quantity, the reconversion picture will be confused. What the industry wants to know is which machines are to be available and which plants will be freed after the German phase of the war. If a company has its fender plant freed and its motor and axle plant still tied

up on large planes for the war in the Pacific, there is little gained. And unfortunately, there is no one yet who can tell where the cancellations will fall. To be sure, the nature of some production gives a clue as to whether it is likely to be continued, but trying to outguess the military, which must of necessity keep its strategy secret, is a hazardous business at best.

It is expected that cutbacks of 35 per cent will accompany the fall of Germany. Some time ago it was announced from Washington that contractors would be advised well in advance what products would be

rs by Spring?



cut back and how much. To date, every automobile manufacturer asked about this report said he had not yet been informed. An important point to remember is that cutbacks relieve only manpower and materials. They do nothing at all to relieve the critical space problem because the assembly line remains intact even if the line is running at only half capacity. Only a cancellation will free plant space.

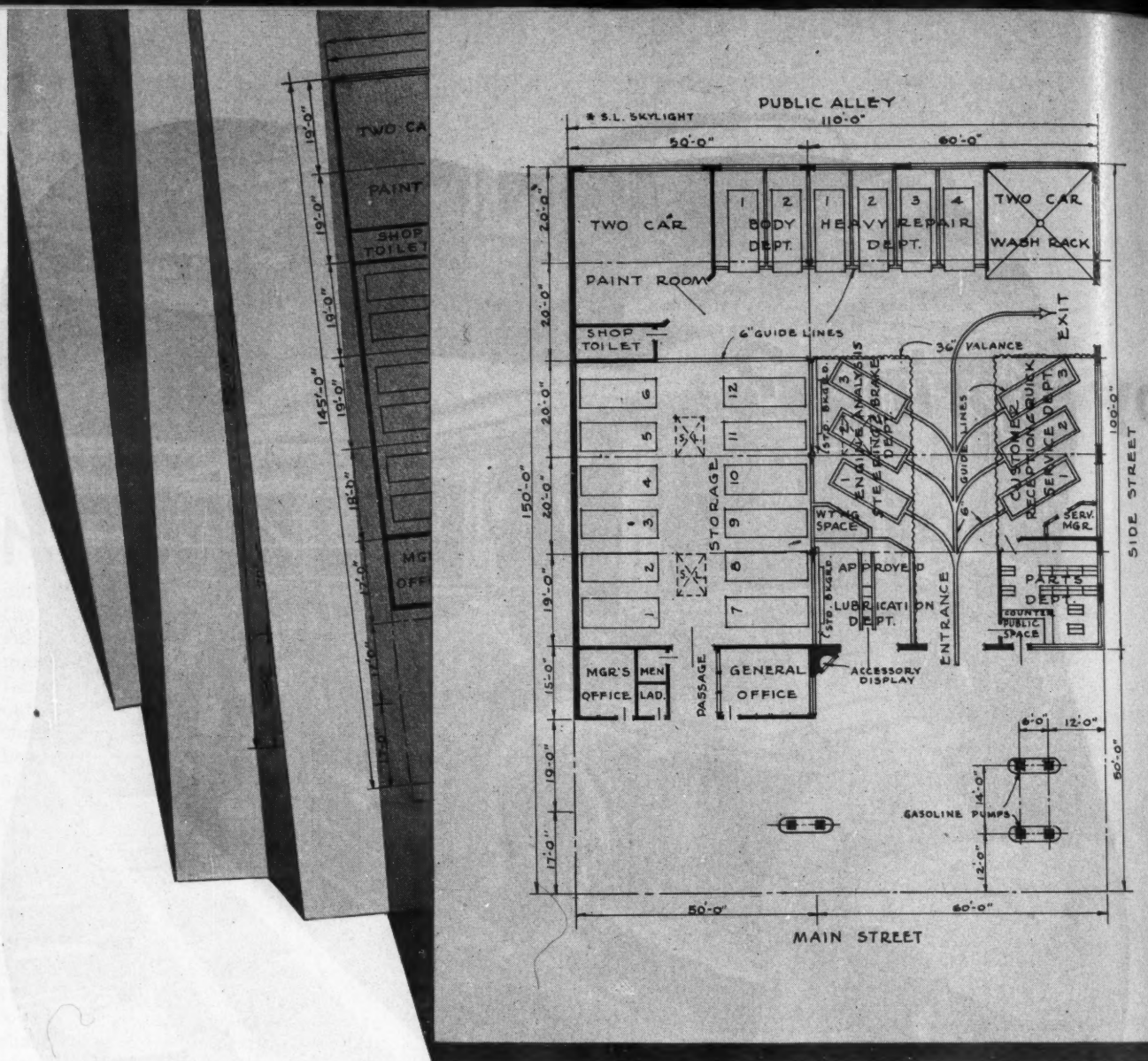
All industry leaders are in agreement that there is a great amount of public misinformation about the status of the industry, and they are

concerned about it. They point out that for months newspapers have carried headlines over Washington stories which create the impression that the government and the industry are working hand-in-hand behind the scenes whipping things into shape so that when the signal is given, all that will be needed will be to shift gears and start a steady climb to full-tilt production. Actually, nothing is further from the truth. It is true enough that there has been a flood of plans coming from the various governmental agencies, but it is equally true that these have not been followed up

with the forthright implementation required to translate good intentions into concrete action. Consequently, the industry fears an unfavorable public reaction may follow if the go-ahead signal is given and there is a long lag, with attendant unemployment, while reconversion is getting under way. The industry has been asking for many months that it be allowed to make a start on necessary preliminary work, but very little actual authority to do this has been forthcoming as yet.

To understand the paramount  
(Continued on page 106)





# Laying Out the Post-War Shop

By **BILL TOBOLDT**

IN the September issue of **MOTOR AGE**, the importance and necessity of making plans to meet post-war conditions were emphasized and the necessity and value of improving the outside appearance of the shop were discussed in detail. In addition, it was pointed out that the interior of the shop must also be improved in order to meet post-war competitive conditions.

The effectiveness of the interior

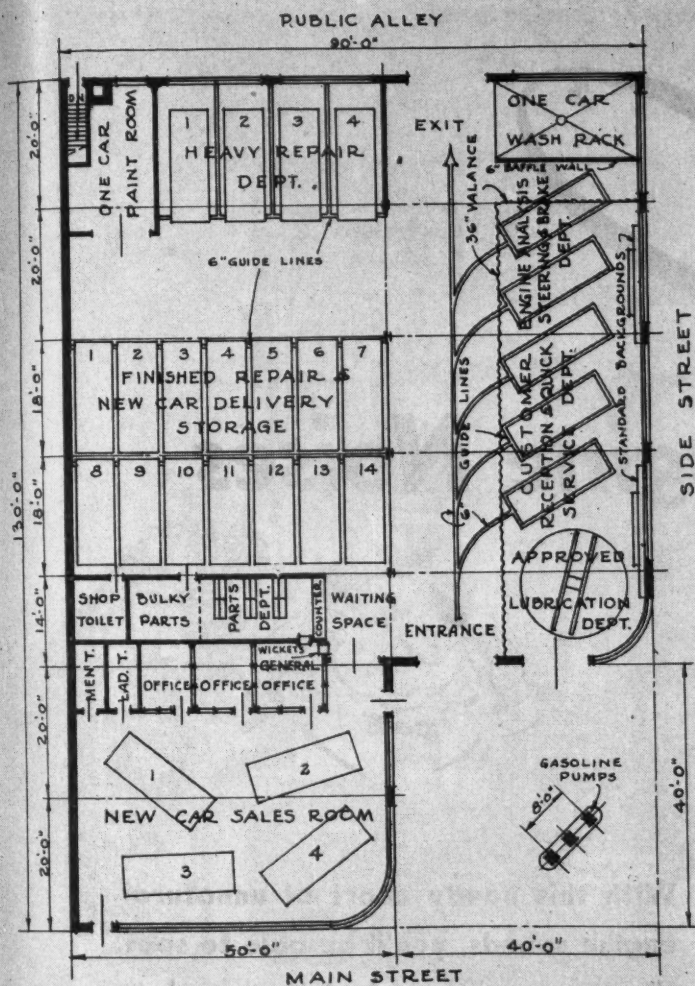
of the shop in attracting the greatest number of customers and completing the maximum number of jobs in the minimum time is dependent on, 1, the general appearance of the interior of the shop; 2,

the types and variety of equipment; 3, location and arrangement of equipment.

Just as the customer forms his opinion of your shop and service from the appearance of the outside, so will he decide on your ability to do a complete, satisfactory and precision type of repair job after viewing the inside.

Naturally the first step in improving the appearance of any shop

SIDE STREET



These shop plans were drawn with the needs of post-war service demands in mind. The plan on the page opposite is suited to the independent repairman, the other to a dealer wishing to make the most out of service.

**Plan a shop that is so well-equipped and arranged that car owners will be impressed with its ability to produce repair work of the highest quality**

is spilled, it must be wiped up immediately.

In regard to wall placards and other advertising and merchandising aids which are supplied by parts, equipment and accessory manufacturers, these are an important adjunct in selling service, parts, and accessories. However, they are of value only as long as they are clean, attractive, and new. Advantage should be taken of every opportunity of using such business getters, but, once they have served their purpose, they should be removed.

Having cleaned and painted the interior of the shop, the next step is to study the arrangement of the equipment. This is of extreme importance, as equipment has two important purposes: First, to do certain specific repairing or testing,

*(Continued on page 56)*

equip-  
ment  
ns his  
service  
outside,  
ity to  
d pre-  
after  
n im-  
shop

is to clean it—walls, ceiling, and floor. This cannot be a perfunctory sort of job but must be a thorough scraping, sweeping, and painting operation so that the complete interior shines. Too many shops have their floors and benches cluttered with dirty, worn parts which should have been placed on the junk pile, while the walls are covered with dusty, soiled placards and signs which have long since out-

worn their usefulness as sales aids.

Many shops do a fair job of maintaining the appearance of their walls and ceilings only to neglect their floors. The better shops are not satisfied with just cleaning the floors, as they realize grease penetrates the cement, leaving an ugly stain. To maintain the appearance of the floor, it is necessary to paint it with special paint and then, when any grease or oil



# Diagnosing Engine Noises



## CRANKSHAFT KNOCKS

(Noises classified as crankshaft knocks are usually dull, heavy, metallic knocks, which either increase in frequency as the speed and load on the engine are increased, or are more noticeable at extremely low speed when the engine is idling unevenly.)

### Causes

1. Excessive bearing clearance (radial).
2. Excessive end play.
3. Eccentric or out-of-round journals.
4. Sprung crankshaft.
5. Bearing misalignment.
6. Insufficient oil supply.
7. Low oil pressure.
8. Badly diluted oil (thin).
9. Loose flywheel.
10. Loose crankshaft gear.
11. Unusual Causes:
  - A. Broken crankshaft web.
  - B. Distorted crankcase.



## CONNECTING ROD NOISES

(Connecting-rod noises are usually a light pound or knock of much less intensity than main-bearing knocks. The noise is usually evident with the engine idling and becomes louder when the engine speed is slightly increased.)



**With this handy chart of unnatural engine sounds, you'll be able to spot the causes without lost time, and so turn out more and better repair jobs**

### Causes

1. Excessive bearing clearance on crank pin (radial).
2. Insufficient oil supply.
3. Low oil pressure.
4. Badly diluted oil (thin).
5. Misaligned connecting rods.
6. Eccentric out-of-round, or tapered crank pin journal.



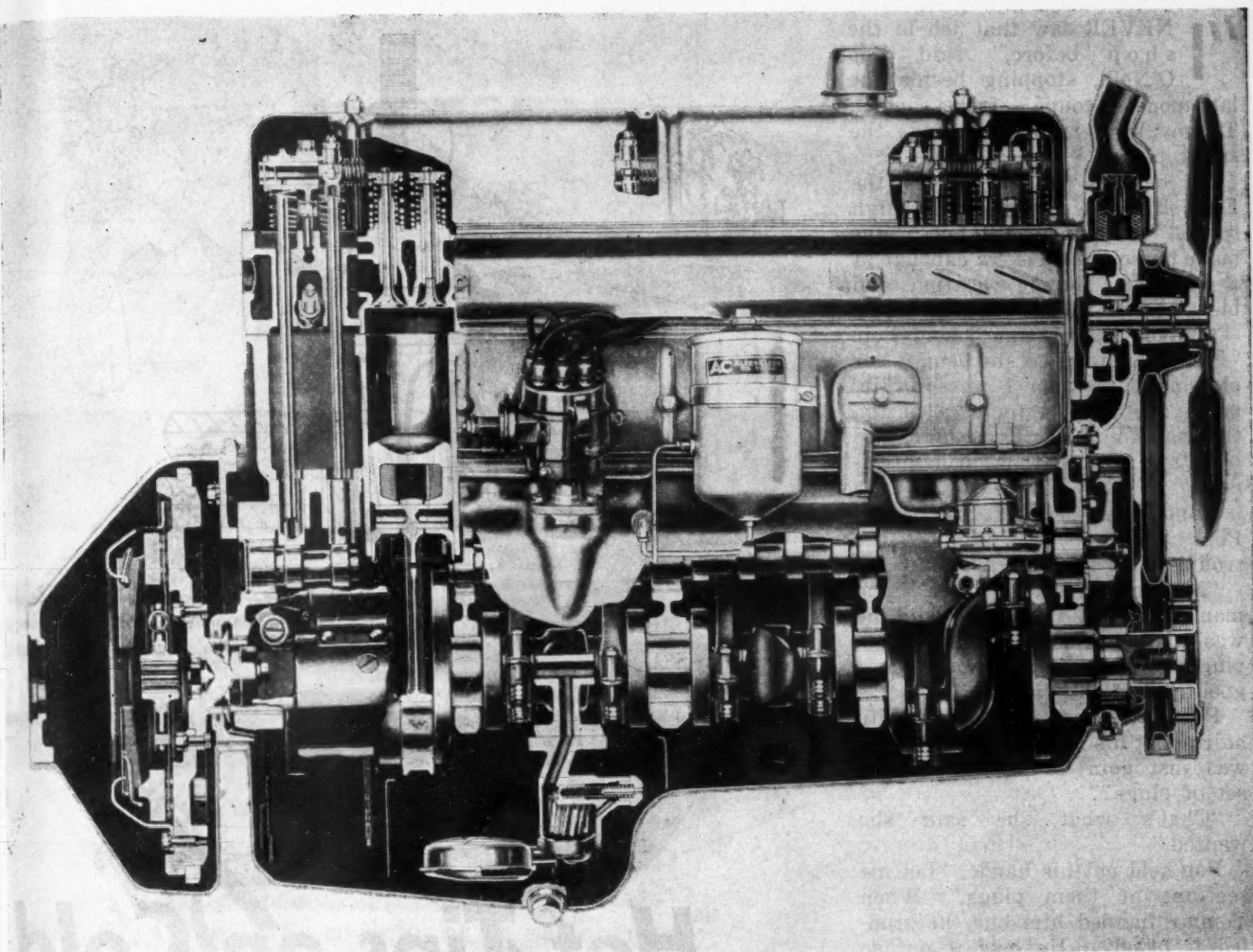
## PISTON NOISES

(The most common piston noise is "slap," due to the piston rocking from side to side in the cylinder. Piston slap usually causes a hollow, muffled bell-like sound, although in some engines a clicking sound is heard. Slight piston noises that occur with a cold engine and disappear after the engine is warm, do not ordinarily warrant a correction. Piston-ring noises generally cause

a click, snap, or sharp rattle on acceleration.)

### Causes

1. Excessive piston-to-cylinder-bore clearance.
2. Eccentric or tapered cylinders.
3. Insufficient piston-pin clearance.
4. Connecting-rod misalignment.
5. Piston or rings interfering with ridge at top of cylinder bore.
6. Piston interfering with carbon accumulation at top of cylinder bore.
7. Piston interfering with cylinder-head gasket.
8. Collapsed piston skirts.
9. Broken piston rings.
10. Excessive vertical clearance of ring in ring groove.
11. Pin hole out-of-square with piston.
12. Ring lands not properly relieved.



### PISTON PIN NOISES

(The most common piston-pin noise is the result of excessive piston-pin clearance. This creates a sharp, metallic, double knock, generally audible with the engine idling and the spark fully advanced.)

#### Causes

1. Excessive piston-pin clearance.
2. Loose piston-pin locking pin.
3. Piston pin loose in upper end of connecting rod.
4. Piston pin rubbing cylinder wall.
5. Connecting-rod end rubbing piston-pin boss.
6. Insufficient piston-pin clearance. (Causes piston slap.)



### VALVE AND VALVE LIFTER (PUSH ROD) NOISES

(Noisy valve action has a characteristic clicking noise, occurring usually at regular intervals. The frequency of valve-action noise is generally less than other engine noises, inasmuch as the valves are operated by the camshaft running at one-half engine, or crankshaft speed.)

#### Causes

1. Common Causes:
  - A. Excessive valve stem to tappet clearance.
  - B. Excessive clearance of push rod in guide.
  - C. Push rod (lower end) scored, chipped, rough, worn, or broken.

#### D. Push rod adjustment screws.

1. Face worn.
2. Face not properly machined.
3. Threads stripped or crossed.
- E. Weak valve springs.
2. Uncommon Causes:
  - A. Excessive valve stem to guide clearance.
  - B. Insufficient valve-stem-to-guide clearance.
  - C. Warped valve head.
  - D. Valve-head face that is not concentric with stem axis.
  - E. Valve-seat face that is not concentric with stem axis.
  - F. Very rough surface on cams.

### SPARK KNOCK (PRE-IGNITION OR DETONATION)

(Spark knock and pre-ignition or detonation causes a metallic ring-  
(Continued on page 70)



"I NEVER saw that job in the shop before," said Pop O'Neill, stopping beside the late-model coupé from which Tommy Winters was removing the spark plugs.

"It belongs to Miss Hayes, the English teacher over at the high school," explained Tommy. "She made herself some extra cabbage at a war plant during vacation, and blew herself to another car."

"Maybe it was time," said Pop. "I don't know when she bought her old one but, when I was workin' on it one time, I found a button that said 'Vote for Roosevelt.'"

"Why Roosevelt is still president."

"But this was Teddy," said Pop. "What seems to be the trouble with the new job?"

"Nothing much, I guess. The man who sold it to her said he was about to put in new spark plugs, so she thinks it would be a good idea if she did it."

Pop smoothed down the white hair about his right ear. "And you was just goin' to sell her a new set of plugs?"

"That's what she said she wanted."

Pop held out his hand. "Let me see one of them plugs." When Tommy handed him one, he studied it briefly. He held it out so Tommy could see the electrodes.

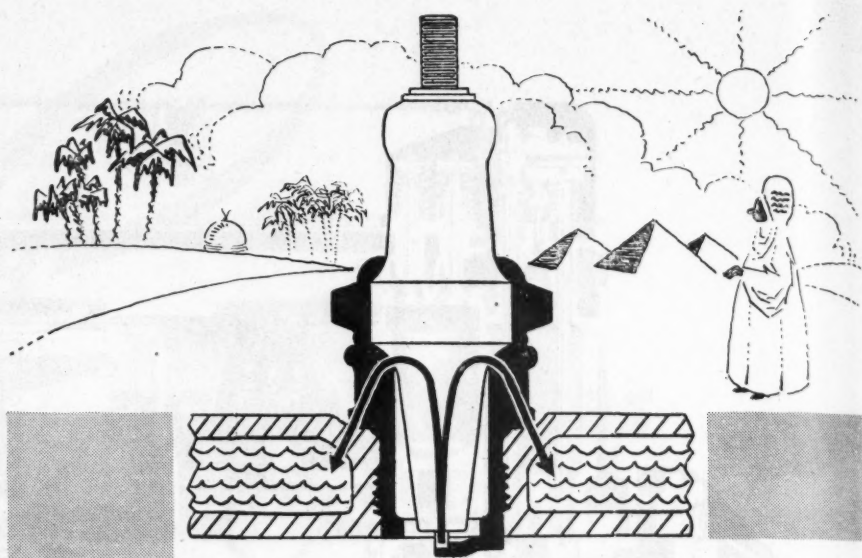
"Carbon's pretty bad, ain't it?" he asked. Tommy nodded agreement. "Better check the carburetor."

Tommy's eyes widened in surprise. "But Miss Hayes didn't say anything about the carburetor."

Laying the spark plug on the bench, Pop leaned his weight against the bench's edge, and shook a finger at Tommy.

"You're talkin' like you was afraid of customers," he said. "When you go to the doctor's with a bellyache, you don't tell him to give you a couple of purple pills or a pink one. He examines you and gives the kind of medicine he thinks you need. A repairman is an automobile doctor. It's his business to prescribe the kind of medicine a car needs. If he lets his customers push him around, and tell him to do this and not to do that, he's headed for a sheriff's sale." He shrugged slightly. "But that's beside the point. What we want to do is get Miss Hayes' car tickin' right. Let's check the float level."

Under Pop's direction, Tommy removed the air cleaner and the cover of the float chamber. Pop



The hot plug. Because of the longer insulator, heat in the plug must travel a longer distance in order to reach the cooling water.

## Hot Tips on Cold Plugs

measured the distance from the top of the bowl to the level of the fuel.

"Too high," he said. "Well, that's easily fixed. Put in the new set of plugs, and I'll fix up the float."

Tommy looked like a kid that had seen a magician break an egg into his silk hat and then pull out a live chicken.

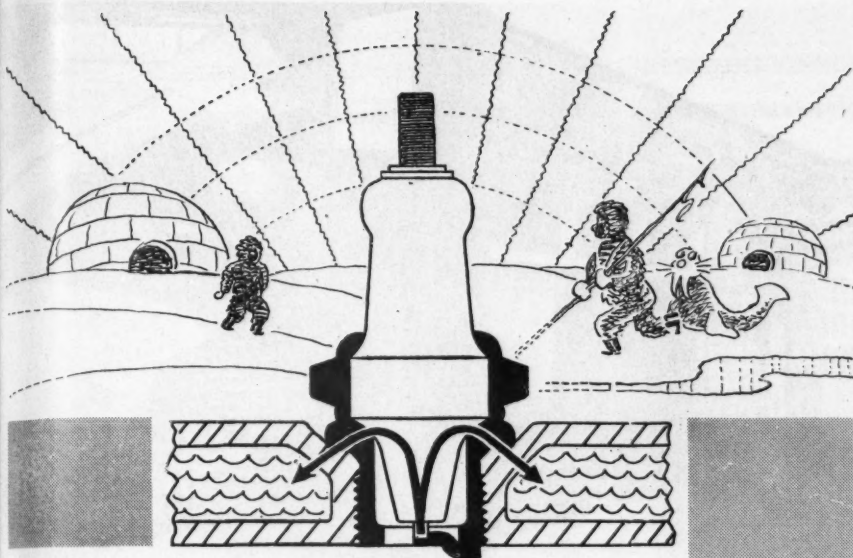
"How could you tell from looking at the spark plug that the float level was too high?" he said.

"I couldn't," admitted Pop, "but I could tell from the amount of carbon on the plug that there was somethin' wrong with the combustion, and a rich mixture was the best guess. A high float level is

one of the things that can give you a rich mixture. It was easy to check, so I did that first."

"That's almost like mind reading," said Tommy. "Suppose it hadn't been the fuel level."

"Then it could of been about ten other things. The carburetor adjustment could of been wrong, or the jet could of been the wrong size. "But," he added quickly, "don't get the idea that a rich mixture is the only thing that makes carbon form on spark plugs. They get sooted up whenever the combustion ain't what it ought to be. Mostly that's on account of ignition trouble, though it could be leaky or stuck valves. If the



The cold plug. Heat is carried off faster because the short insulator of plug makes it possible to reach water by shorter path.

## In the 34th article of a series on service fundamentals, Pop O'Neill explains how performance often can be improved by use of proper plugs

By J. EDWARD FORD

trouble is in the ignition system, it could be a low battery, or faulty connections, or worn or broken cables. It might be bad breaker points or an incorrect breaker-point gap. Or it might be spark timin'. And, of course, if the combustion chamber is all clogged with carbon, you might get pre-ignition, and that has the same effect as incorrect timin'.

"You don't find these things very often when you're lookin' for the cause of fouled plugs, but any time you see an accumulation of carbon on a plug you can be sure there's a good reason."

As usually happened when Tommy was bursting to ask a

question, he began to fidget, and Pop paused obligingly.

"Larry said something the other day about putting in a set of hot plugs. The hot plugs didn't look any different to me than the set he took out, except that they were longer."

"That's a big difference," said Pop. He went over to a bench along the wall and, kneeling, rummaged through a box of discarded small parts. When he rose, he held two spark plugs.

"See the difference in the length of them insulators?" asked Pop, holding the electrode ends of the plugs toward Tommy, who nodded assent. "This plug—the one with



the longer insulator—is a 'hot' plug. The other one is 'cold.'

"Now, before you ask, I'll tell you how they work. The longer the lower end of the insulator is, the more of it is exposed to the heat of combustion and the more heat it absorbs. Besides that, the heat has to travel a longer distance through the insulator to get to the engine block and be carried off. Naturally, the plugs heat up, so it's a 'hot,' or 'hot running,' plug. In a plug with a short insulator, there's less insulator exposed to the heat and the path through it to the block is shorter. Heat is carried off faster, and that makes it a 'cold' plug."

"But," said Tommy, after taking the plugs and examining them closely, "how does changing the plugs help the performance of the engine?"

"By lengthenin' the life of the plugs. Suppose an engine is fitted with plugs that run too cold. The carbon that's deposited on the insulator and on the shell just stays there and builds up. The plug don't get hot enough to burn it off. After while, there's enough carbon on the plug to cause a dead short, and that means a miss in that particular cylinder.

(Continued on page 50)





The building in the foreground of this view of the Ruppert dealership is the addition built before war started for use as a new-car salesroom. War changed Ruppert's plans. The shop and parts department are now the busy spots. Above at right, Ammon Rentschler, Ruppert's son-in-law, at work in shop. Right, Ruppert at his desk.

# Veteran Dealer Makes Service Pay

**E.** W. RUPPERT, of Tremont, Pa., is one dealer who can await the coming of peace with no fears or misgivings of any kind. Where many dealers have guided their business through only one war, Ruppert, who has handled one make of car continuously for 32 years, has experienced not only two wars but also several depressions of varying severity, and numerous coal strikes, which in the Pennsylvania coal fields are the equivalent of localized depressions. Because his dealership has emerged from each period of distress as a larger and more prosperous business, Ruppert can view the future with confidence.

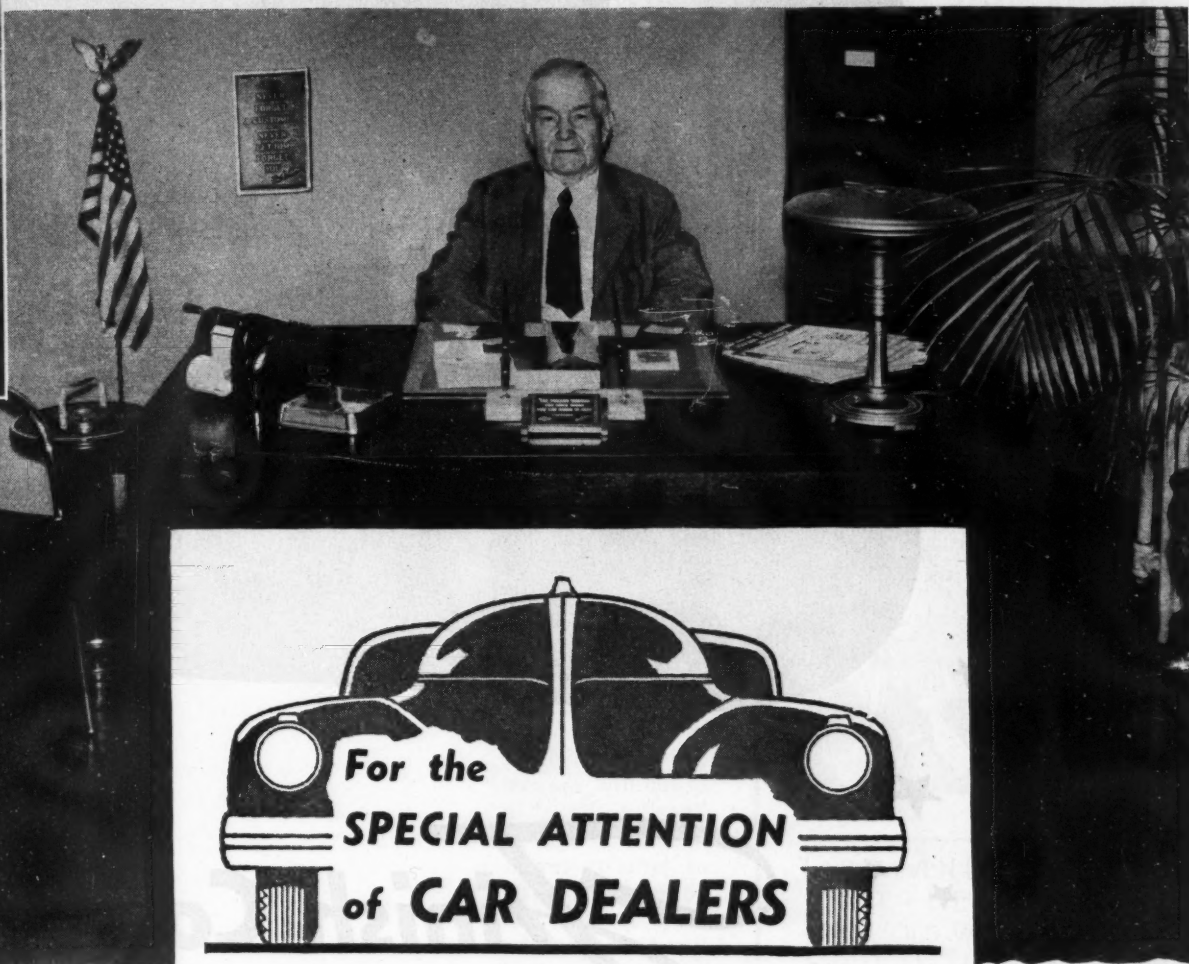
The way in which Ruppert has mastered the problems created by the present war shows what an individual dealer can do when he refuses to become panicky at the first approach of a storm. After new-car production was halted in January, 1942, some dealers promptly closed their doors; others began to look around for other sources of in-

come, such as taking on side lines or seeking sub-contracts for war production. Many of them succeeded when they added lines or ventured into new fields, but Ruppert was not even tempted. He had been an automobile dealer for 29 years when this country went to war and he intended to stay in it.

Like many other far-sighted deal-

**In 32 years of handling one make of car, he has survived boom, panic, war, and peace, and at 77 he proves again that it is smart to rely on the shop**

ers, he could see that a country without new cars would need more automotive service than ever, so he concentrated on service, the sale of parts and accessories, and on gas and oil sales. The wisdom of his choice is shown by a comparison of the business done in the first eight months of this year with that done in a like period of 1941, which was



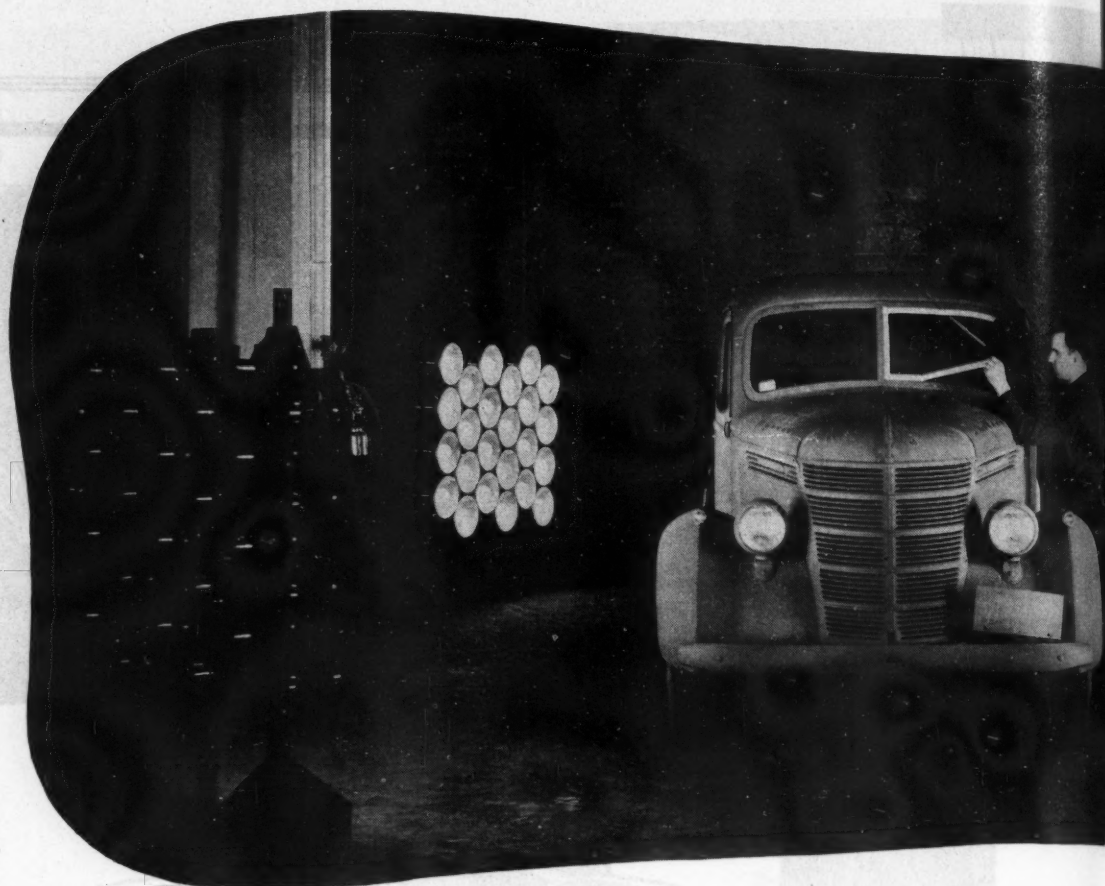
Discussing a problem of vital importance particularly to dealers, this article is only one of many in this issue of **MOTOR AGE** that make profitable reading for the car dealer and the men in his shop. All the articles in this and every other issue of **MOTOR AGE** offer helpful information on management, service, official regulations, and current developments pertaining to the automotive retail field.

the firm's most profitable year. Customer labor sales, up to Sept. 1 this year, were 250 per cent greater than for the 1941 period. Parts sales were up 400 per cent. Although accessories of many kinds went out of production almost as soon as new cars, enough of those which were manufactured were sold by Ruppert to double his 1941

volume. On the company's statements, tires are classed as accessories. Even gas and oil sales show an increase of 50 per cent, a fact that is explained by the firm's location in the heart of Pennsylvania's hard-coal region where trucking is heavier than ever before and where practically everyone is entitled to B or C gasoline rations.

As might be expected from this excellent sales and service showing, the firm made a comfortable profit for the first eight months of this year. This profit was net after all charges and expenses for the entire establishment, including those arising from a building erected just before the war for the storage and  
(Continued on page 66)





# Finish Coats That

Some tips on the care and handling of spray guns to help you obtain durable and

**A**FTER all the trim, hardware, and glass on the car has been completely masked and the surface to be finished has been properly prepared, as explained in the two previous issues of *MOTOR AGE*, the car is now ready to receive the finish coats of lacquer.

When spraying a finish on a surface, the gun produces a definite pattern. This pattern varies in shape and width according to the adjustment of the spray by the operator. The pattern generally used in refinishing is elliptical in shape and, if the gun is working perfectly, the application of the lacquer is of uniform thickness from the center to the ends of the ellipse. The



By **BOB TURNER**

slightest variation in air pressure or flow, caused by air leakage at various connections or fittings, or any obstruction to the air issuing through the air nozzles, or the imperfect alignment of the parts of

the gun when assembled will distort the pattern and affect the uniformity of the application of the lacquer, cause overspray, split spray, spattering, and produce effects which must be removed by hours of hard labor after the spraying is done.

The fan of the spray should cover a solid wet coat of 4 to 6 in. if the gun is operating properly and the lacquer is properly reduced. If the spray pattern does not come up to these standards, the trouble should be remedied before applying any finish coats.

Before spraying any lacquer, the spray gun should be thoroughly cleaned by placing the paint tube



## at Last

### and lustrous paint jobs

of the gun in a container filled with thinner and flowing the thinner through the gun until the thinner issues clear from the spray-gun nozzle. Air should now be blown through the gun to remove any thinner and to dry the gun. The spray-gun cup should also be thoroughly washed out with thinner and dried before filling the cup with lacquer.

Probably the most important step before spraying any lacquer is the mixing. When lacquer stands in a container, the pigment settles to the bottom leaving the vehicle floating on top. This pigment must be thoroughly mixed with the vehicle until no pigment remains in the

bottom of the container. If this mixing operation is not properly done, the entire job may be ruined. When mixing the lacquer with thinner the lacquer manufacturers recommendation should be carefully followed and the specified grade of thinner recommended should be used.

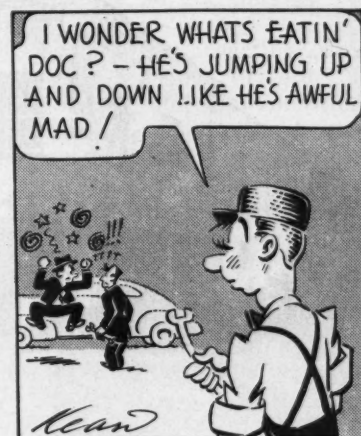
When starting to spray the finish coats, the gun should be held about 6 to 8 in. away from the work and moved with a steady motion in a straight line over the surface to be covered. As the work progresses, each line of spray should slightly overlap the previous line. If each stroke with the gun does not overlap the previous one, a streaked finish will result.

After the surface has been covered with strokes in one direction, the operator should allow about one-half hour and then the surface should be cross-sprayed. Holding the gun in one spot too long when spraying lacquer will cause a "run" or "sag" in the finish. Never attempt to wipe out a run or sag with a piece of cloth, as it will take the finish off down to the metal. In some cases the run can be flattened out by playing the air pressure of the gun on it. When the runs are dry, they must be

sanded out level before applying the next coat.

After the last coat of lacquer has been sprayed on the surface, a mist coat of thinner may be sprayed over the job to flow out any scratches or imperfections that appear on the surface. After this coat of thinner has been applied, the job should be allowed to dry over night before using rubbing compound for the final polishing. If the surface is compounded too soon after spraying it is scratched excessively and the compound becomes embedded in the lacquer, destroying the high gloss which should be obtained. This same condition also gives the finish an off color appearance.

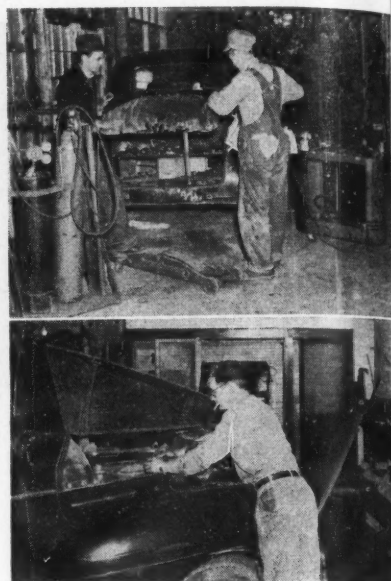
## BUTCH...







As this view of the building suggests, the Central Service and Garage, Hattiesburg, Miss., was designed to attract gas, oil, and lubrication customers. Departments were added after war began until shop now offers complete service. Right above, a corner of the profitable body shop, which is being enlarged. Right, a mechanic at work in the tune-up department.



## Shop Thrives on *Super* Service

Extending repair facilities to meet the wartime demand, it scores a ten-strike with car owners

By GEORGE H. WATSON

**B**ACK before Pearl Harbor, quick services constituted the main business of Central Service and Garage at Hattiesburg, Miss.—these consisted of the sale of gasoline and oil, lubrication, washing, polishing, and the like. The repair shop was secondary, merely an adjunct to these “up front” operations.

Now the situation is exactly reversed. Motor tuning, front-end alignment, body and fender work, and other repair work has become the main activity of the business.

There are several reasons for this change-over. Joe Morris, pro-

prietor, lists the reasons this way:

1. Formerly when owners had driven their cars about long enough for them to need major overhauls, they were traded in. Buyers of such cars as a rule could not afford an overhaul and either did the work themselves, if they knew how, or went without it.

2. There is more heavy repair work today. Although cars are getting older, they must be kept running and that can be done only by extensive repairs. Then, too, the war has caused a shortage of mechanics and some shops have gone out of business.

3. “Up front” services have fallen off, due to the gasoline and tire rationing program. Strangely enough, this has not decreased the demand for mechanical work, but rather has increased it, as customers want their motors tuned, so as to save gas and their wheels balanced to save tires, etc.

To take care of this change in emphasis and increased attention to mechanical repairs, the Central shop was enlarged with an addition in the rear. This made room for the fender and body shop and for the enlargement of the frame, axle, and wheel-alignment department. A second alining machine was added, one which will easily accommodate the biggest truck with trailer attached. This enables the shop to handle wrecks and smash-ups without farming out any of the work, as well to cooperate closely with the tire-conservation program.

As a further step toward putting repair work on a systematic basis, the shop was thoroughly departmentalized, with an experienced man in charge of each department, on a semi-profit-sharing basis. These include the head of the body and fender shop, the frame-straightening and alignment shop, and the general motor-repair and tune-up department. Each of these department heads has full authority to hire and fire, and it is his job to get out the work.

Furthermore, to save time, the shop began carrying its own stock of parts. This makes it unnecessary for mechanics to run back and

(Continued on page 52)



# *P*ower Brakes and Post-War Safety

**Heavier traffic when wraps are taken off the use of cars will demand quick, positive stops**

**P**OST-WAR traffic is going to be pretty tough. The American car-driving public will cast off the shackles of a ration card and try to catch up on the driving it was forced to forego during the war. Added to this group will be 10 million returned soldiers, each with a heavy foot and no inhibitions when it comes to maintaining their right of way. That's no reflection on the soldiers, as a different technique is required to wheel a jeep or a tank through enemy country and they won't throw off such driving habits immediately. So all indications are that traffic will be tough and a split second will spell the difference between a wreck or a close shave. It is, therefore, more necessary than ever before to maintain brakes in perfect condition and do everything possible to bring the car, truck or

bus to a stop quickly and safely.

Theoretically, a vehicle being driven at 30 m.p.h. can be stopped in 30 ft. But that's theoretical, as it assumes the driver has strength enough to apply the brakes fully. Furthermore, there is no time allowance made for the driver to note the necessity of stopping, and then remove his foot from the accelerator and apply the brake. During the split seconds taken by such reactions, the car or truck will travel many feet. At 30 m.p.h. a car is moving 44 ft. a second. So, if a second of time is required for the driver to note the necessity for coming to a stop and then move his foot from the accelerator to the brake pedal, the distance traveled by the car during that interval must be added to the distance traveled by the car while the brakes are applied in order to get the total

stopping distance. At 30 m.p.h., this would be 30 ft., plus 44 ft., making a total of 74 ft.

Of course, this reaction time varies with different drivers. It depends on age, physical condition, fatigue, and distractions. A man may be a good driver when he starts out in the morning, but, during the course of the day he gets tired, so that by 5 o'clock his reactions and judgment to apply the brakes are not nearly as good as they were earlier in the day. At 9 o'clock he can stop his car in 25 ft. but by 6 the distance has increased to 30 or more.

It is to minimize this time lag and fatigue factor that brake power units, or boosters, are being installed on cars and trucks and will be a big factor in reducing accidents which will tend to increase as traffic increases and wartime restrictions are removed.

By means of brake power units, the effort required to apply the brakes is reduced so that a child can apply them as easily as a man. Strength, therefore, is not a factor and the car or truck can be brought to a stop more quickly. In addition, by reducing the physical effort needed to apply the brakes, it will reduce the fatigue experienced by the driver so that at the end of the day he will not be so tired and his reaction time will not have decreased so much.

Actually, the reaction time can be divided into several different parts. First there is the reflex reaction which is entirely involuntary. It is the reaction traveling from the brain to the muscles and normally requires about 3/10 second. It is the reaction that takes place to a loud noise or a sudden jolt. Then there is the simple reaction which occurs when a person is all prepared to do something at a given signal. For example, a driver waiting for the green light before he steps on the gas. Finally there is what is known as the discriminative reaction. This occurs when a driver approaches a traffic light and he is deciding whether to crash through or stop.

All those reaction times added make an appreciable period and are a major factor in automobile accidents. The brake power unit, by reducing fatigue, tends to maintain a better reaction time throughout the day and in addition, by multiplying the pressure applied by the driver to the brake pedal, will reduce the stopping distance. They are, therefore, of value not only on heavy trucks but light trucks and passenger cars as well.



# DID YOU Know It?



WHO?

WHAT?

WHEN?

WHERE?

## LET US SEND YOU \$10.00

Motor Age will pay \$10.00 each for acceptable short items or articles which are published in this department. They should be brief, preferably with a real humorous touch and, above all, should be of wide interest to those in the trade. They can be anecdotes regarding well-known men in the automotive industry, interesting bits about little known facts relating to the industry or its products, stories about unusual stunts or experiences with automobiles from the earliest day to the present. The general character of the material desired may be judged best by referring to the items on these pages and in this department in previous issues. The facts should be simply but plainly stated without any attempt, necessarily, to put them in publishable form. The Editors will see to that.

Send your contribution—every reader of Motor Age is invited to do so—to "Did You Know It", Motor Age, Chestnut and 56th Sts., Philadelphia 39, Pa.

## Viva La Anti-Freeze



This one is from *Stars and Stripes*, the daily newspaper of our armed forces in Europe:

The Second French Armored Division, formed in North Africa after the final liberation of Tunisia and now fighting with our Allies in France, was widely welcomed by the populace of a town in Normandy.

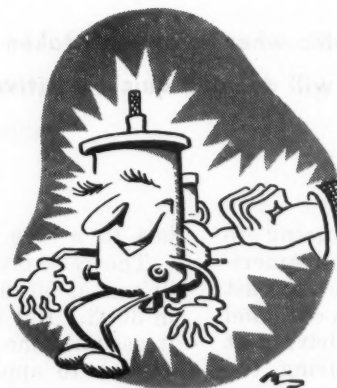
As each tank rolled by, crowds lining the sidewalks would read aloud the name stenciled on the front and shout it to those in the rear.

"Vive Bordeaux!" they shouted, and a cheer went up. "Vive Lorraine!" Another cheer.

Somewhere along the route, a GI supply truck had slipped into the convoy. Stenciled on the radiator was the familiar sign, "Prestone 1943," indicating that "Prestone" anti-freeze had been put into the cooling system.

"Vive La Prestone!" shouted the crowd wildly.

## Carburetor Tickler



Back in 1910 the firm for which I worked in Chicago sold a one-ton truck, which was powered by a two-cylinder opposed engine. The carburetor was mounted at the apex of the V-shaped intake manifold immediately behind the radiator, and had not one but two methods of making starting easier in cold weather. Besides

the choke, it had a spring-loaded pin in the float-bowl cover which depressed the float and so raised the fuel level. The pin was actuated by reaching up under the radiator.

A few days after the new buyer took delivery, he called the dealer's office on the phone. He was hopping mad. He had cranked till his arm felt like a piece of old garden hose, but the engine wouldn't start. The man who took the call was sympathetic. "Did you tickle the carburetor?" he asked.

"Oh," said the buyer, "a smart Alec! Yes, I tickled the carburetor, and I petted the radiator and I stroked the steering wheel and I pinched the spark plugs. And your . . . truck still won't start."

"But if you'd only tickle —" began the dealer. "Say that word once more," retorted the buyer, "and

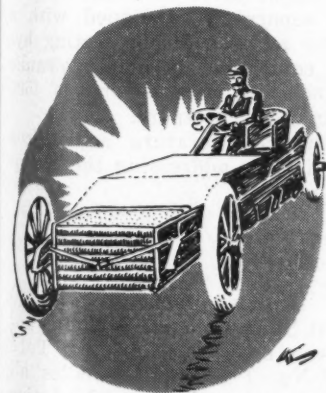
WHY?

... and HOW!

I'll come down there and tickle your chin with a couple of left hooks. And then I'll sue you."

At last it dawned on the dealer that his customer wasn't up on the latest 1910 slang. Patiently, he explained that by "ticking the carburetor," he meant reaching up under the radiator and depressing the pin in the carburetor and in that way flooding the carburetor.—J. D. Russell.

## High Paraffin Rating



There's a "knock" in today's gasoline for civilian cars, but it is not so loud as the "knock" that was heard about foreign gasoline 40 years ago when America lost the fourth running of the Gordon Bennett International Automobile Race in Ireland. The knock was sounded by Charles B. Shanks, advertising manager for the

Winton car, upon his return to this country, after Jenatzy had taken the International Cup to Germany.

Shanks reported that the best gasoline available on the market there was 63 "degrees," while the lowest grade used in American was 68 "degrees." He and Winton heard that the English, French, and German drivers had obtained a special motor fuel somewhere, but when they looked around, the only outside source they were able to contact was a dealer in Russian gasoline who claimed 72 "degrees." This proved correct in their own test, and they bought 100 gal. at 60 cents a gallon, filling up their machine and putting the remainder in storage.

In the race, however, the American machine developed coughing spells. Winton stopped to examine the carburetor and found it clogged with paraffin, which he removed and sped on in the race. Again and again the same trouble occurred.

His machine in trials in this country proved equal to Europe's best, and he felt justified in shipping it to the Irish track. Furthermore, America was losing prestige by repeated failures in the International classic, and public confidence had to be restored. The poor grade of foreign gasoline the explanation of another failure.—Rudy Anderson.

## Racing Prospects



Among the speculations stirred by the remarkable progress being made by our military forces and the prospect of peace is the question of a resumption of automobile racing, last seen in this country more than three years ago. Al Rickenbacker, brother of Capt. Eddie Rickenbacker, and manager of the Indianapolis Speed-

way, has declared that the 500-mile Memorial Day speed classic will be resumed as soon as conditions make it possible. Whether that will be next year is a question that depends for its answer upon the war.

Following the last war, revival of the Memorial Day race waited only six months after the fighting stopped, being run on May 30, 1919. Howard Wilcox, who won in a Peugeot, hung up an average of only 87.95 m. p. h., but the speed was called too high and it was announced right after the race that in the future, competing cars would be restricted to 183 cu. in. instead of 300 cu. in.

More important, probably, was the fact that the race, called the Victory Sweepstakes in 1919, attracted a tremendous crowd, estimated variously at 75,000 to 125,000.

## Who Is This Man?

He attended Cornell but was graduated from the University of Texas.

At 22, he sold more Ford cars in one year than any other car salesman in America, an achievement that led him to Detroit and enrollment in the Ford School of Commerce.

Later, he became president of a car distributorship at Los Angeles, and, while still in his early thirties, he moved East to become associated with a metropolitan distributor.

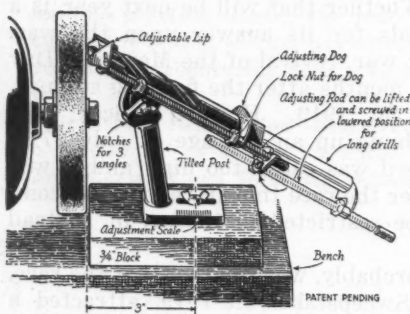
When he was only 37 he was made president of a car manufacturing company and almost immediately upped the sales of the company 36 per cent.

These hints should enable you to identify him. If not, turn to Page 95.



# NEW PROFIT MAKERS

## PARTS TOOLS EQUIPMENT ACCESSORIES



### Drill Grinder

A new tool called the "Super" has just been announced by A. D. McBurney, 939 West 6th St., Los Angeles 14, Calif., which enables anyone to grind a drill to a factory finish in 25 seconds.

The tool handles drills from 3/32 in. to 1 1/16 in. in diameter and up to 11 in. in length. It is adjustable to either 59 degrees, 69 degrees, or 88 degrees. The retail price is \$2.95 complete.

### Anti-Mist Compound

Merix is a new anti-fog liquid compound that prevents the forming of mist, fog or steam on any type of glass or plastic surface. It's easily applied lasts a long time, is noninflammable, nontoxic, non-acid, keeps indefinitely and is not affected when exposed to

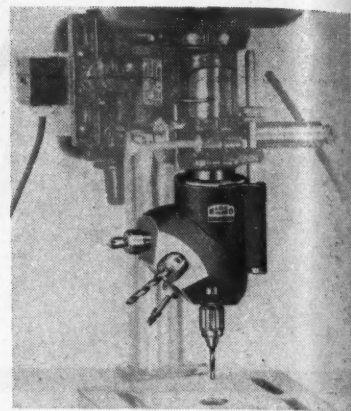
light. Merix, applied to any glass surface with soft cloth or cotton batting, forms an invisible protective film which keeps surface free of mist, fog, or steam for indefinite periods. Ideal for windshields, goggles, eyeshields, camera lenses, optical airplane instruments and any other glass or plastic surface where temperature variations between inside and outside, moisture, fog or steam causes these areas or instruments to become foggy. In addition, Merix cleans glass and plastic surfaces without harming the softest plastic, so as to remove any form of dust, dirt or fingerprints and to assure clearest possible vision.

Merix is manufactured by the Merix Photo Co., Dept. 104, Wrigley Bldg., Chicago 11, Ill.

### Drill-Press Turret

The Machine Development Co., 516 Fifth Ave., New York 18, N. Y., announce a turret attachment for small-type drill presses of well-known makes, which eliminates the need for gang-drilling machines.

The turret head is called "MADCO" and is designed to enable single-spindle drill presses to be used for multiple spindle operation. The present model has six individual spindles and will take drills up to 3/8 in. diameter. The head can also be used for tapping when the drill press is equipped with a reversible motor.



Through a clutch arrangement the individual spindles are driven in perfect alignment with the main drill-press spindle.

### Motorized Presses

All-steel construction throughout and simple hydraulic control are the outstanding features of the new motorized 10 and 20-ton presses manufactured by Reimuller Brothers Co., 9400 Belmont Ave., Franklin Park, Ill.

A hand-lever hydraulic valve controls the ram movement through feed, hold, or return position.

Other features of the press are hollow, large-area ram for holding punches and other fixtures, lapped ram, packless design, twin pressure gages showing pressure and tons.

The motor-driven hydraulic pump furnishes one and 1 3/4 gal. of oil per minute to the ram giving 1.5 in. per second ram speed in the 10-ton and .8 in. per second for the 20-ton.

The motor drive unit can be purchased separately, equipped with a table top to be used for testing hydraulic equipment or as a hydraulic test bench and furnishes up to 4500 lbs. per sq. in. pressure.

Descriptive literature and prices may be had by addressing the manufacturer.

### Tube Cutter

New Britain Machine Co., 140 Chestnut St., New Britain, Conn., announces a new Self Feeding Tube Cutter, No. T-130 that handles all tubes and copper, brass or lead pipe from 1/8 in. to 1 in. diameter and supplements T-120, the smaller size cutter which handles tubes from 1/8 in. to 3/8 in. This device does a swift, precise cutting job. After the tube is inserted in the cutter and tightened, it does not have to be reset. The tension in the frame automatically gives a deeper cut on each turn, until the tube is severed. The length of the tool is 5 1/4 in. and weighs 6 oz. A priority rating of AA-5 or higher is required for the purchase of this tool.

ent the  
in per-  
a drill-

ughout  
are the  
e new  
s man-  
rs Co.,  
Park,  
e con-  
h feed,

re hol-  
holding  
lapped  
essure  
tons.  
pump  
oil per  
n. per  
n and  
n.

e pur-  
with a  
g hy-  
draulic  
4500

prices  
manu-

140  
l., an-  
Tube  
es all  
pipe  
and  
r size  
m 1/8  
swift,  
tube  
tight-  
reset.  
tical-  
turn.  
length  
6 oz.  
igher  
this

AGE



# Laughs

OF THE MONTH



"Clancy's using that sign till they start making cars again!"



"I get pretty good mileage on gas, though."



"Sundae driver!"



W

## WASHINGTON RULINGS AND REGULATIONS



### Customer Credit Ordered For Old Parts Traded In

WHOLESALE and retailers, accepting used or damaged automotive parts in exchange for a replacement, must make a reasonable allowance for the old part, the OPA has ruled. An old part, traded in for a replacement, was always considered partial payment on the new part, the OPA says, but some resellers took the position that the purchaser was not to be given credit for it.

Another change in MPR 453 permits wholesalers to add 4 per cent to their ceiling price to recover the amount of federal excise tax paid. Previously the allowance was only 3 per cent, which the OPA now acknowledges was inadequate.

On a part with a \$10 list, the OPA

explains, the wholesaler, if he bought it at a discount of 55 per cent, paid 22½ cents tax, but if he resold it at 40 off, he could collect only 18 cents. Under the new ruling he can collect 24 cents.

### Deadline Set for Dealers To Register Personal Car

CAR dealers have until Oct. 18 to register in their own names one or more cars set aside for personal or business use. After that date, the clearance statements which were issued by the OPA to make such registration possible will be discontinued.

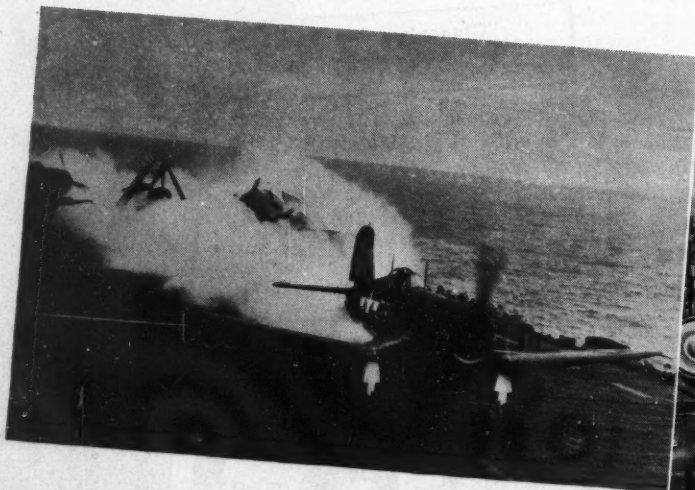
The use of clearance statements was first authorized on June 1, 1943. In discontinuing the statements, the

OPA take the position that dealers have had ample time to make use of them. After Oct. 18, as before, a dealer may use in his general business operation only a car which is registered for his use or for which he has obtained a clearance statement.

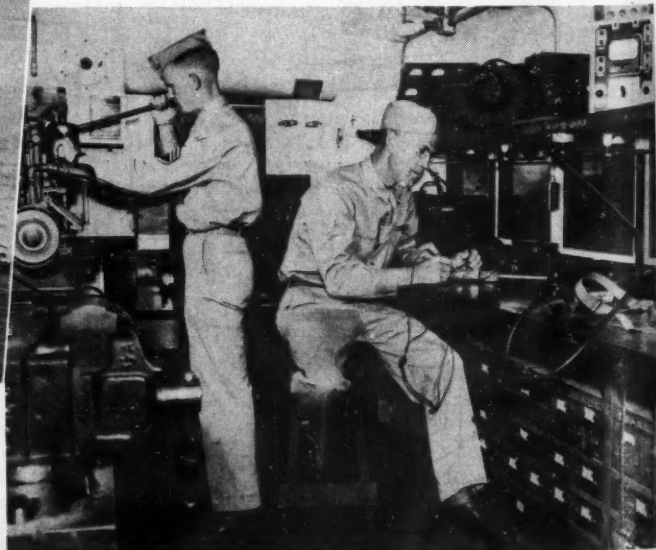
### OPA Accepts Only One Suggestion on Used Cars

OF the three recommendations made by the Used-Car Subcommittee of the Industry Advisory Committee for the motor-vehicle retail trade, only one has been accepted by Price Administrator Chester Bowles. This is the requirement that certificates of transfer be filed on all purchases of used cars, whether the

**RADIO ROLLS** The mobile radio repair shop in which these GI experts are working rolls right along with advancing Yank armies in Europe. Equipment is shock-proof.



**ROCKET SHIP.** Not a Buck Rogers creation but a highly efficient fighter. Rockets under the fuselage of this Navy Corsair plane reduce needed take-off run by a third.





**SUNK.** This amphibious Nazi car, shown with a Canadian crew, never completed its mission for the Germans. It was captured when the Allies sprang the big Falaise trap.



buyer is a dealer or a private individual.

Each certificate filed with local war price and rationing boards must contain a complete description of the car being sold, the selling price, and a certification by both buyer and seller that the price is not above the price ceiling. Because there was originally no requirement that dealers file certificates, there was no way of telling what cars dealers had in stock when the new rule became effective Sept. 12. Consequently, dealers were required to make an inventory report of all cars in their stocks as of Sept. 11.

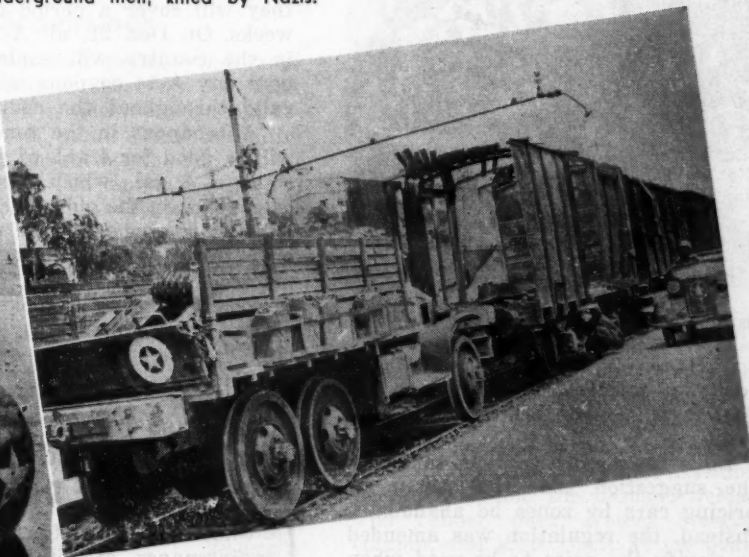
The subcommittee's recommendation that the mark-up over the "as is" price be increased was turned down. Bowles pointed out that a ma-

(Continued on Page 40)

**GEAR GRINDERS.** That's the inventors' name for the vehicle, seen on a beach along the Red Sea, with its GI builders. The body is an auxiliary gas tank from a plane.



**NAZIS SCRAM.** Courtyard of a headquarters building in Paris after hurried Nazi departure. Hole in ground is grave of eight French underground men, killed by Nazis.

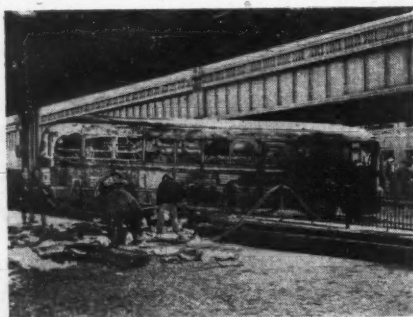


**TRUCK TRAIN.** After bombing Italian freight cars, Yanks put flanged wheels on six-by-six Army truck to provide vitally needed rail transport for Italian offensive.





**DISASSEMBLERS.** Boys at a Boston high school get a lesson in automobile mechanics. Many dealers in the area are employing the boys after hours on disassembly operations.



**PASSENGERS SAVED.** Driver of this bus, when driveshaft broke on a ramp on New York's West Side elevated highway, ordered 45 passengers to leave. Bus then rolled down the ramp, crashing into pillar and taking fire.

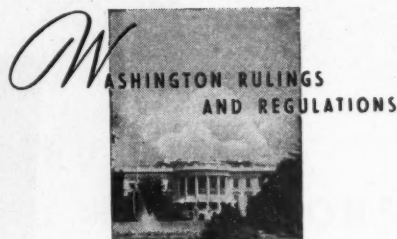
**FREE NAZI GAS.** Nazis were not generous but only in a hurry. Here Parisians are seen helping themselves to gas Germans abandoned when they were driven from the city.



(Continued from Page 39)

majority of purchases of used cars by dealers was made below the "as is" ceiling.

Likewise, no action was taken on the suggestion that the system of pricing cars by zones be abandoned. Instead, the regulation was amended to clarify the price to be used when the car is sold within 100 miles of a boundary between regions. As the rule now stands, any car sold in this "twilight" zone must not be sold above the ceiling effective in the zone



where the car is registered. If not registered, then the ceiling is that in effect in the state where it was last registered.

In connection with the recommendation of longer mark-ups, the OPA announced that rumors of a revision of used-car prices were entirely unfounded. Adjustments will undoubtedly be made from time to time on individual models, Bowles declared, but a general revision is not contemplated.

A later ruling by the OPA requires that judicial sales of used cars be governed by price ceilings.

### East Coast Motorists Get New "A" Books Nov. 9

**E**FFECTIVE Nov. 9, the validity dates of "A" coupons will be made uniform throughout the country. Book holders in the East will have A-12 coupons still in their book but these coupons will not be validated. Instead, new books will be issued East Coast motorists, and A-13 will be made valid on Nov. 9. Motorists in the rest of the country already have received their renewal books.

Only three of the six A-13 coupons in the renewal books issued to East Coast motorists will be valid, since they will cover a period of only six weeks. On Dec. 21, all A-13 coupons in the country will expire and the next day A-14 coupons will be made valid throughout the country.

"A" coupons in the renewal books will be good for 4 gal. of gasoline instead of 3 gal., which was the value of coupons in the old books. However, only six coupons will be made valid over three months, thus giving the motorist a total of 24 gal. in that period. With the old books, the same ration was provided by validating eight 3-gal. coupons every three months.

### Mark-up on Used Trucks Is Boosted for Dealers

**I**N what it calls an effort to help the maintenance of vital transportation facilities, the OPA has increased the dealer mark-up of used-truck prices. This has been accomplished by lowering the "as is" ceiling on all trucks from 1937 through 1944 and

also raising the "warranted" prices of 1941-1943 models, inclusive.

According to the OPA, the previous mark-up did not permit the dealer to recondition trucks thoroughly and sell them at the "warranted" ceiling, with the result that many trucks were being sold "as is."

The dealer, before the adoption of the new amendment to MPR 1360, could mark up 1942 and 1941 models only 14 per cent. Under the new rule, he can mark up 1942 models 18 per cent and 1941 models 24 per cent.

As further encouragement to reconditioning, the charges for any work done under a warranty are now divided equally between dealer and buyer.

The new ceilings, shown in percentages of the f.o.b. list prices, follow:

Model Year	Percentage	
	As Is	Warranted
1944, 1943, 1942, sold new in 1944.....	81	103
1943, 1942 sold new in 1943 .....	81	103
1942 .....	72	92
1941 .....	62	80
1940 .....	56	74
1939 .....	53	71
1938 .....	49	67
1937 .....	44	62
1936 .....	41	58
1935 .....	37	54
1934 .....	33	50

1933 and earlier model year vehicles take the percentages applicable to 1934.

### Tire Shortage Extends To Small Truck Sizes

**S**O severe has become the shortage of truck tires that it threatens the delivery of new commercial vehicles and has now extended to the smaller sizes.

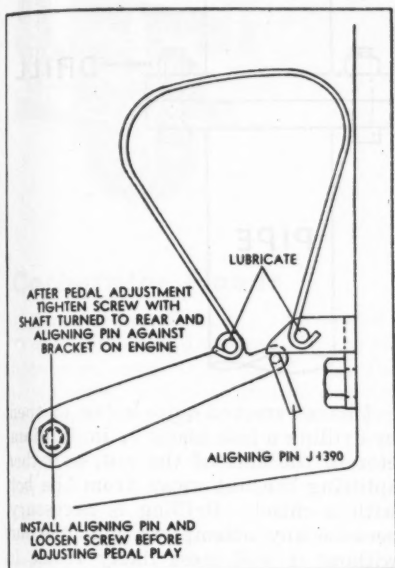
Nearly 320,000 tires were requested to meet the new-truck building program in full for the last quarter of 1944, but increased military demands have caused the request to be slashed to 206,056, a drop of 35.4 per cent. The implication is that a third of the new trucks must stand idle because of the lack of tires.

A further discouraging note was sounded by the ODT when it announced that the monthly allocation of 8.25 x 20 and larger tires for the

(Continued on page 86)

## Clutch Pedal Adjustment

The clutch pedal free play on a Nash 4260-80 should be maintained at  $\frac{1}{2}$  in. at all times. The free play is adjusted in the following manner.



Install aligning pin as shown in drawing. Loosen helper spring lever screw at right end of clutch release shafts. To remove free pedal play, tighten nut at rear end of pedal to lever link to a point where the pedal has not over  $\frac{1}{2}$  in. of free play. With a small pipe wrench, remove all play from the throwout shaft by turning it to the rear. Then tighten helper spring lever screw with aligning pin against the projection of the pivot bracket at the rear end of the engine. If the lever is adjusted too low, the clutch pedal will not return and the release bearing will ride the clutch levers enough to let the clutch slip. If the lever position is too high, the pedal pressure will be heavy and the pedal will return against the floor too harshly.

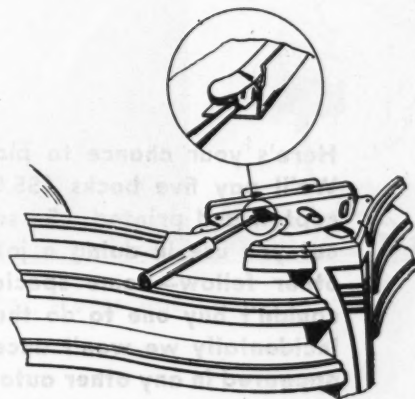
## Adjusting Engine Mountings

To adjust engine mountings on a Chevrolet, tighten the front mounting bolts. If mountings are soaked with oil, they should be replaced. Tighten the rear mounting bolts (at the rear of the transmission). Make sure mounting studs are tight in transmission case. Check the clearance between the transmission cross member and the "U" section plate. This clearance should be from .005 in. to .015 in., equally spaced fore and aft. If the clearance exceeds these limits, remove the mounting and bend the "U" section plate until the clearance is within these limits. Note: This clearance is very important, because it limits the fore and aft movement of the engine. Tighten the side mounting bracket bolts. Remove the bolts from the side

# SERVICE HINTS

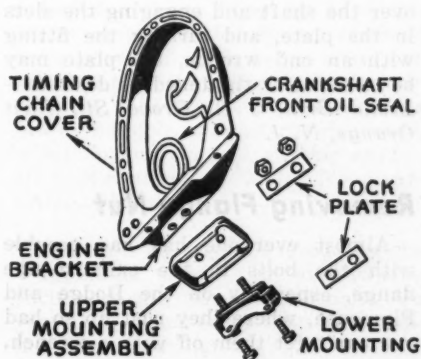
## FROM THE FACTORIES

mountings and check the clearance between the mounting and its bracket on each side. If the clearance is more than  $\frac{1}{16}$  in., shim with  $\frac{3}{8}$  in. plain flat washer. If the clearance is less than  $\frac{1}{16}$  in., loosen the bracket bolts and push the mounting upward. (There may be sufficient clearance in the bracket bolt holes to give the necessary  $\frac{1}{16}$  in. clearance.) If you are unable to get the proper clearance in the manner described, remove the brackets and elongate the holes with a round file until you have  $\frac{1}{16}$  in. clearance between the mounting and the bracket.



## Engine Mountings

To remove and replace the front engine-mounting assembly on 1941 Oldsmobile, it is necessary first to remove the oil pan. When installing front engine mounting, the cap screws, which fasten the mounting to the frame or bracket, should be tightened finger-tight. Then take one turn on one cap screw, and one turn on the other, and so on, to tighten evenly in place.



## Opening Hood

To unlatch the hood on a 1941 Pontiac from the outside, insert an 8-in. screw driver in the opening between the first and second radiator grille bars on the right side of the car. Place the point of the screw driver between the hood catch lever and front part of the bracket and use as a pry to release the catch.

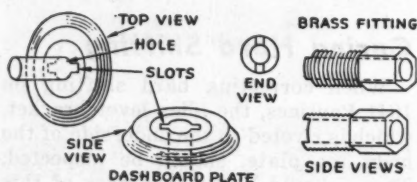
## Curing Hard Shifting

When correcting hard shifting on 1941 Pontiacs, the idler lever bracket, which is riveted to the underside of the body toe plate, should be inspected. There should be no looseness of this part. If looseness is found, it is recommended that the toe-plate assembly be removed, and the bracket welded. The rubber part around steering column, and shift shaft at toe board may retard the up and down movement of the shift shaft. This can be remedied by trimming away rubber where binding occurs and applying a few drops of brake fluid to shift shaft.



# 5 SHOP KINKS

Here's your chance to pick up a little cigaret money. We'll pay five bucks (\$5.00) for every Shop Kink accepted and printed. So send 'em in to us—some short cut you use in doing a job easier and faster than the other fellow—some special tool you made when you couldn't buy one to do the job—and we'll do the rest. Incidentally we won't accept any that have previously appeared in any other automotive publication. Here are some that were accepted this month.



## Protecting Panel

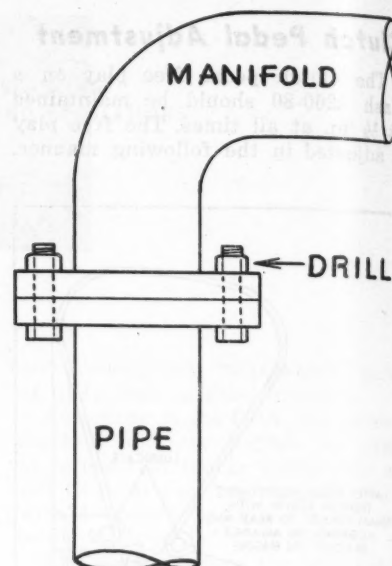
Instrument boards on the 1941-42 Dodge and Plymouth cars have a shaft cover plate which requires a special tool for removal to avoid scratching the instrument panel.

I made a tool very quickly for this purpose. It works very satisfactorily. I use an old flexible oil-or-gas-

line fitting and cut the end of the fitting to enter the slots in the instrument board plate, as shown in the illustration. By slipping the fitting over the shaft and engaging the slots in the plate, and turning the fitting with an end wrench, the plate may be loosened or tightened as desired.—*Leslie Brill, 3 S. Grove St., East Orange, N. J.*

## Removing Flange Nut

Almost everyone has had trouble with the bolts in the exhaust-pipe flange, especially on the Dodge and Plymouth, where they rust up so bad you can't get them off with a wrench.



I have removed quite a few of them by drilling a hole about  $\frac{1}{4}$  in. in diameter in the side of the nut, and then splitting the nut away from the bolt with a chisel. Drilling is necessary, because any attempt to split the nut without it will most likely result in a broken manifold.—*S/Sgt. A. W. Lummis, Dept. of Training, Granite City Eng. Depot, Granite City, Ill.*

## Rod-Bearing Replacement

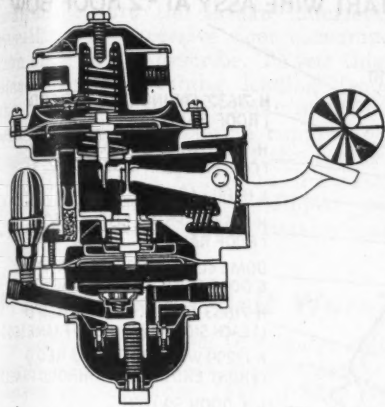
We have found a method in our shop of replacing Chevrolet connecting-rod bearings without removing the cylinder head. This method has proved very satisfactory and saves a great deal of time.

First pull the rod and piston to the lowest possible position in the cylinder. Remove the piston-pin clamp screw. Then take a piece of old speedometer cable about 2 ft. long and weld a flat washer, slightly smaller than the piston pin, to the end of the cable. Draw the cable through the piston pin and pull the pin out of the piston while tapping lightly on the connecting rod. The pin slips into place easily when installing the new rod.—*Simon P. Jones, 1220 Cokey Rd., Rocky Mount, N. C.*

## Gas Tank Repair

We frequently have cars come into the shop with small leaks in the gas tank.

We repair these tanks quickly and effectively with a flat-head metal screw and a fiber washer. We coat both sides of the washer with a gasket compound that hardens. Then we screw the metal screw into the hole from which the gas is leaking. The gasket compound sets up hard and we have found the repair to be very satisfactory. This can be done without removing the tank from the car or the gas from the tank.—*Dougald H. Munro, 525 Belmont Rd., Grand Forks, N. D.*



## THE READERS'

# CLEARING HOUSE

## of Servicemen's Queries

### Carburetor Floods

About a month ago, I overhauled a 1930 Chrysler. I delivered the car one afternoon and that night the fuel pump went bad, so I installed a new one. Since that time I have had plenty of trouble. The carburetor continues to flood. I have overhauled the carburetor, installed new pump leather, pump check valves, new float and float pin. Today I reduced the fuel pump pressure to a little less than 3 lb.

Before the new pump was installed this trouble did not exist. Could it be the pump pressure? What pressure should this job have? —A Maryland Subscriber.

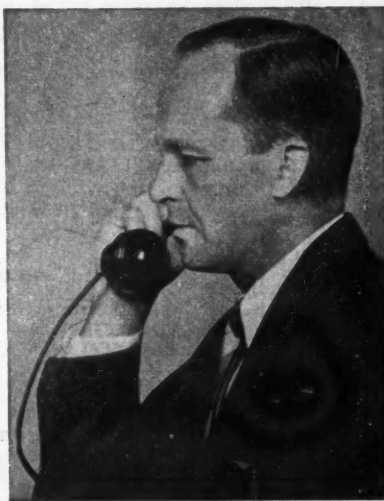
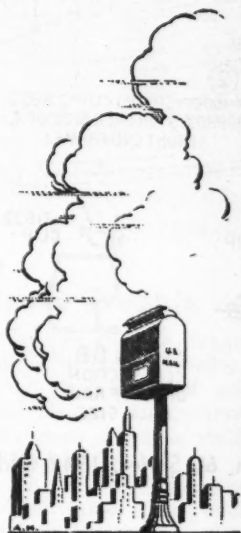
YOU are on the right track in reducing the fuel-pump pressure. This pressure should be between 2 and 4 lb., and since you have reduced it to a little less than 3 lb., I believe the job will be O.K.

There is the possibility, of course, that the new float needle valve and seat you installed is not good, in that the needle may not have a gas-tight seat. I would check this to be sure, and also check the float level to be sure it is not too high.

### Heater Trouble

There is a GMC truck in our shop with a 400 series motor in it. When it was brought in there was a dull, grinding noise about the transmission. Examining it, I found the clutch-pedal pull-back spring was weak and allowing the throw-out bearing to carry the weight of the clutch-pedal. A new spring corrected that, but, when the clutch-pedal is pressed down to shift gears, the throw-out bearing grinds. Is there any remedy besides pulling the transmission and installing a new throw-out bearing?

A T-18-H GMC truck, with an Eaton two-speed rear end, was brought in for an overhaul and to have everything replaced that showed wear. When the truck is empty, the Eaton axle throws out of gear, but with a load on there is no trouble. The rods and shifter lever are clear and not rubbing. What do you suggest?



Bill Toboldt, Editor, Motor Age

We also have a 1941 DeSoto coupe with an air-conditioning heating outfit in it. This fall it did not heat. We put on all new hose. This car has steel pipe with short lengths of heater hose to make connections. I checked the heater units and blew them all out and they are all clear. I installed a new thermostat. Still it does not work. I pulled hose loose from top pipes on heater units and bled air out of small holes provided. This helps some, but the next time the motor is started air must be bled again. Radiator is as full as possible without running over. What do you suggest on this one?—H. A. Whittlesey, P. O. Box No. 2, Atwater, Ohio.

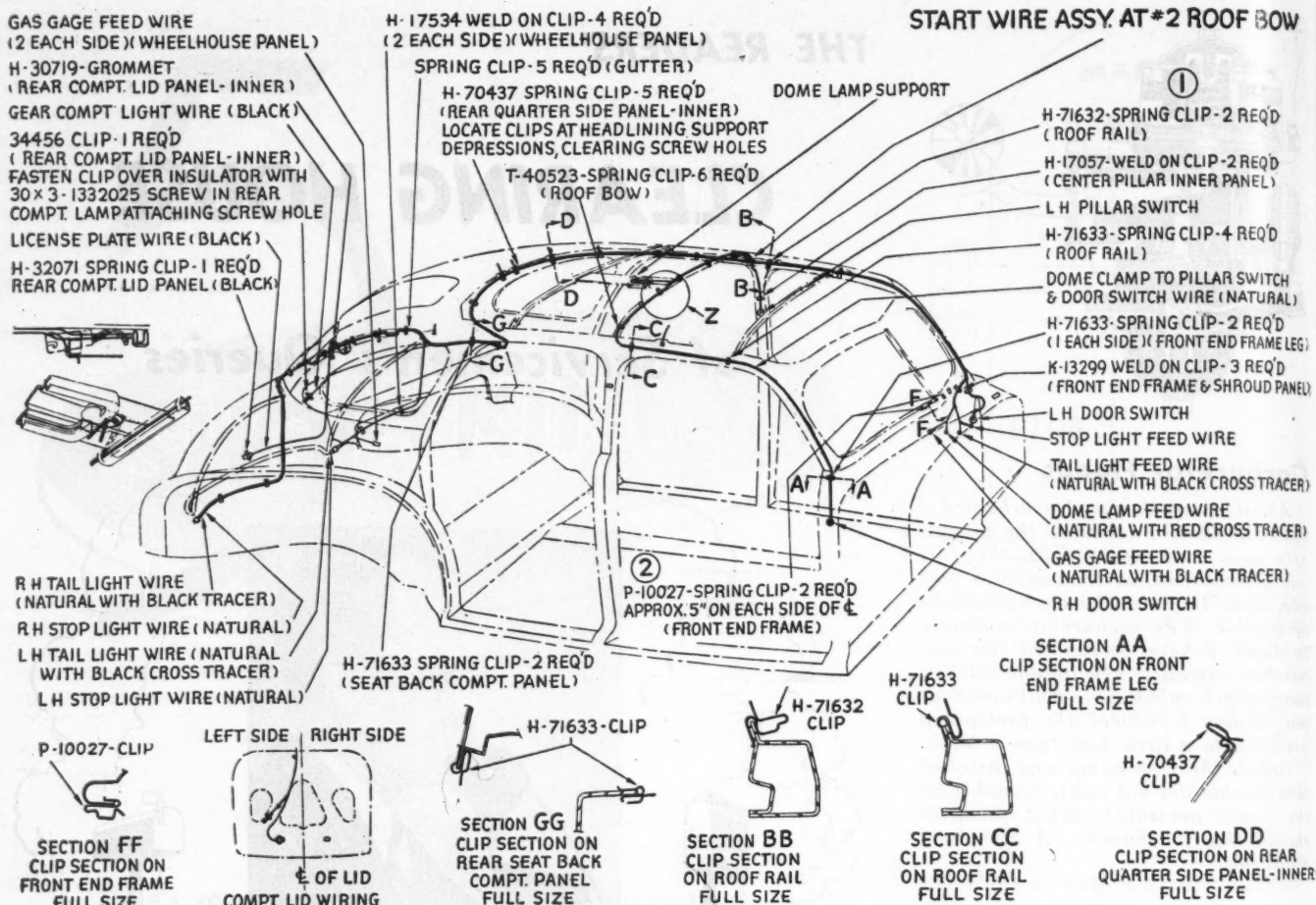
THERE is no way of overcoming the grinding noise you are experiencing in the throw-out bearing on your GMC truck other than by installing a new bearing.

In reference to the trouble you are having with the heater on the 1941 De Soto, it would seem to me that, if you were absolutely sure that there were no obstructions in the heater or heater hose so that you have a free flow of water, your trouble is probably caused by the use of a thermostat that operates or opens at too low a temperature.

If your water pump is circulating the water and there are no obstructions in the cooling system, you should have no difficulty getting heat, provided your thermostat opens at about 180 degrees. This, however, applies if you use a permanent type of anti-freeze. If you can't get this, you will have to use the evaporative type of anti-freeze and a thermostat which opens at about 160 degrees, and then you won't get very much heat.

On the difficulty you are experiencing on the T-18 H GMC truck with an





Body Wiring Diagram, 60 Series, 1942 Oldsmobile

Eaton two-speed rear end, I am inclined to believe that your trouble is the result of incorrect adjustment of the shifting levers and rods. In some instances, it is virtually impossible to make an adjustment which will overcome your trouble because of the great difference in the height of the body when loaded and unloaded. This is particularly aggravated when the springs are weak and when the truck is severely overloaded. In many instances, helper springs will assist in overcoming this difficulty so that there is not such a great variation between the height of the body when loaded and unloaded.

### Burned Points

I have been having a little trouble on some cars I have been servicing and I would appreciate very much any help you might be able to give me on this matter.

The first is a 1936 Deluxe Ford. I have been servicing this since new. It has always had ignition trouble. At present this car has 42,000 miles. The points in the distributor burn in about 1800 to 2000 miles, motor starts missing, then gets hard to start, and starts cutting out on the road. I've overhauled distributor and it will be satisfactory for a short time. The distributor on this car has been replaced

or rebuilt 14 times in the 42,000 miles. I have changed coils, condensers and resistors with no success in adding to life of the points.

I also received a 1940 Special Ford V-8 that has the same trouble. I changed distributors, coils, and resistors and still points burn out in about 2000 miles.

Sometime ago I serviced a 1937 60 hp. Ford. Gasoline started to get into the crankcase, as much as 1 qt. of gas in 60 miles of driving. I installed new valve-cover gasket, three different fuel pumps, and two carburetors. The motor runs well.—V. M. Twigford, Sistersville Motor Co., Sistersville, W. Va.

I HAVE read with interest your letter describing the trouble you are experiencing with breaker points on a 1938 and a 1940 Ford.

There are two possibilities which might be causing this trouble. First of all, particularly on the 1938 model, the trouble might be caused by too high a voltage from the generator. This can be overcome by the installation of a voltage regulator which tends to keep the voltage from becoming excessive. However, I am more inclined to believe that the trouble is caused by a defective resistance in the primary circuit. You will find this resistance behind the instrument panel.

It sometimes happens that this resistance will burn out and then, instead of replacing it, a mechanic will wire around it. This will result in excessive voltage in the ignition circuit which in turn will result in burned breaker points.

### Oil Burner

This is in reference to a 1941 model 44C Buick. At 33,000 miles I had a complete overhaul job done on it. New rings, carbon and valve, water pump and fuel pump. This job was guaranteed. It still burned oil; in fact, it burned more oil than it did before being overhauled. Since then, three more ring jobs have been performed on the same motor but to no avail.

Even the inlet hole and outlet holes in the distributor shaft were either drilled out or plugged according to its requirements. There are no leaks around the motor whatsoever. I was advised to write you.

This car has now got 47,000 miles and it burns about 1 qt. of oil to every 150-200 miles.—New York subscriber.

I AM quite sure the difficulty you are experiencing on the 1941 Buick is caused by a defective diaphragm on the vacuum pump portion of your fuel pump. When these diaphragms are split, oil is drawn directly from the

crankcase into the intake manifold, resulting in excessive fuel consumption such as you describe. To test this, disconnect the tubing leading from the fuel pump to the intake manifold and then with the engine running oil vapor should come out of the tubing.

If this proves not to be the case, you have undoubtedly slipped up somewhere in doing the repairs you have outlined.

### Free-Wheeling Unit Worn?

I have a 1942 model D22 Dodge club coupe with fluid drive, which was purchased in November, 1941. I have replaced the clutch twice, once at 12,000 miles and again at about 22,000 miles, (the mileage is now 30,000 miles), the reason being that it became so rough that I felt I was doing the car harm not to.

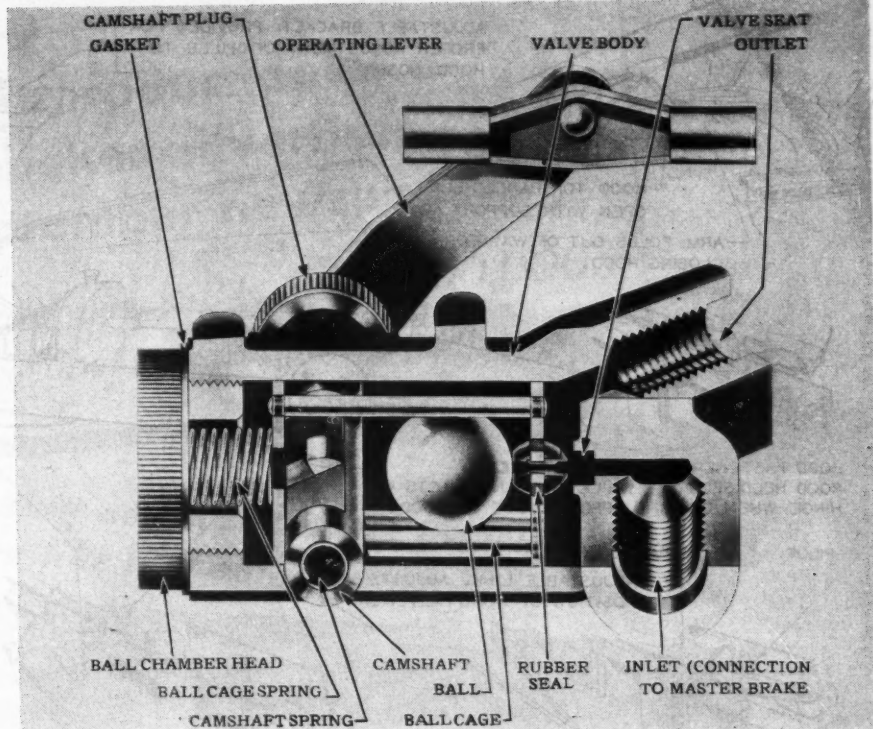
Have you heard of any instances where this particular year and model Dodge gave clutch troubles? Could you give me any inkling as to what is causing this? The chattering caused by the clutch is very annoying and I would sincerely appreciate any suggestions you might have to eliminate it.

I might add that it is more pronounced in hot weather or when the car is hot, than it is in cool weather or when I have first started up the motor.—H. R. Younglove, Buffalo, N. Y.

I WAS wondering if the trouble you are experiencing in your 1942 Dodge is not in the transmission rather than in the clutch. In a number of cases the difficulty has been found with the countershaft cluster gear and free-wheeling assembly. The trouble is that the free-wheeling unit becomes worn and, as a result, it sometimes gives the effect of a slipping clutch and also sounds as though the gears were clashing together.

I would suggest that you carefully check this free-wheeling unit in the cluster gear assembly.

I have not heard of any particular difficulties with the clutch plate itself and cannot see any reason why you should have this trouble continuously.



### Brake Trouble

At present, we have a 1939 Studebaker which is being serviced for brake repairs and adjustment, and new lining. The master cylinder has new cups and new fluid and the lines have been bled.

The Hill Holder attachment seems to be interfering with the regular hydraulic brakes. When the clutch pedal is pressed clear down, the brake pedal can be moved forward only about 1 in. but, when the clutch pedal is back about central position, the Hill Holder releases and the brake pedal can be forced down within 3 in. of floor board before brakes are applied. We know, of course, that the Hill Holder should release an instant before starting on hill to prevent brake drag.

How can this trouble be removed? Is air getting into the main line through the Hill Holder? Is there a valve to be cleaned or adjusted? If possible would you please forward sec-

tional diagram of Hill Holder as used on the Studebaker models?—S. W. Albright, 2352 Kinzie Ave., Racine, Wis.

UNDOUBTEDLY the difficulty you are experiencing with the Hill Holder on your 1939 Studebaker is caused by incorrect adjustment of that unit. To assist in this, I am sending you a photostat of the instructions released by the Studebaker Corp., and I am quite sure if you will read these carefully you will have no difficulty in overcoming your trouble.

### Boosting Ford Power

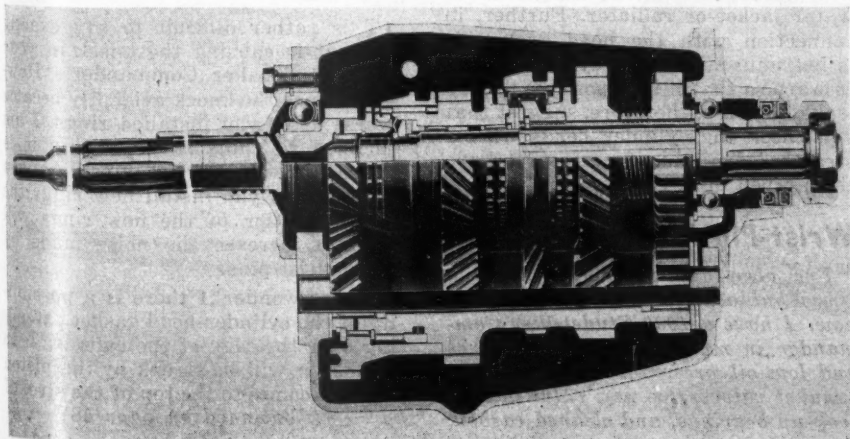
What is necessary to change a 1937 Ford motor from 60 hp. to 85 hp.?—J. P. Achord, Clermont, Fla.

TO change a Ford 60 to a Ford 85, it is best to replace the complete engine clutch and transmission assembly. The propeller shafts on these cars are the same but there are some slight changes in the transmission and clutch because of the increased power that is transmitted with the 85 and it is, therefore, advisable to change the complete units.

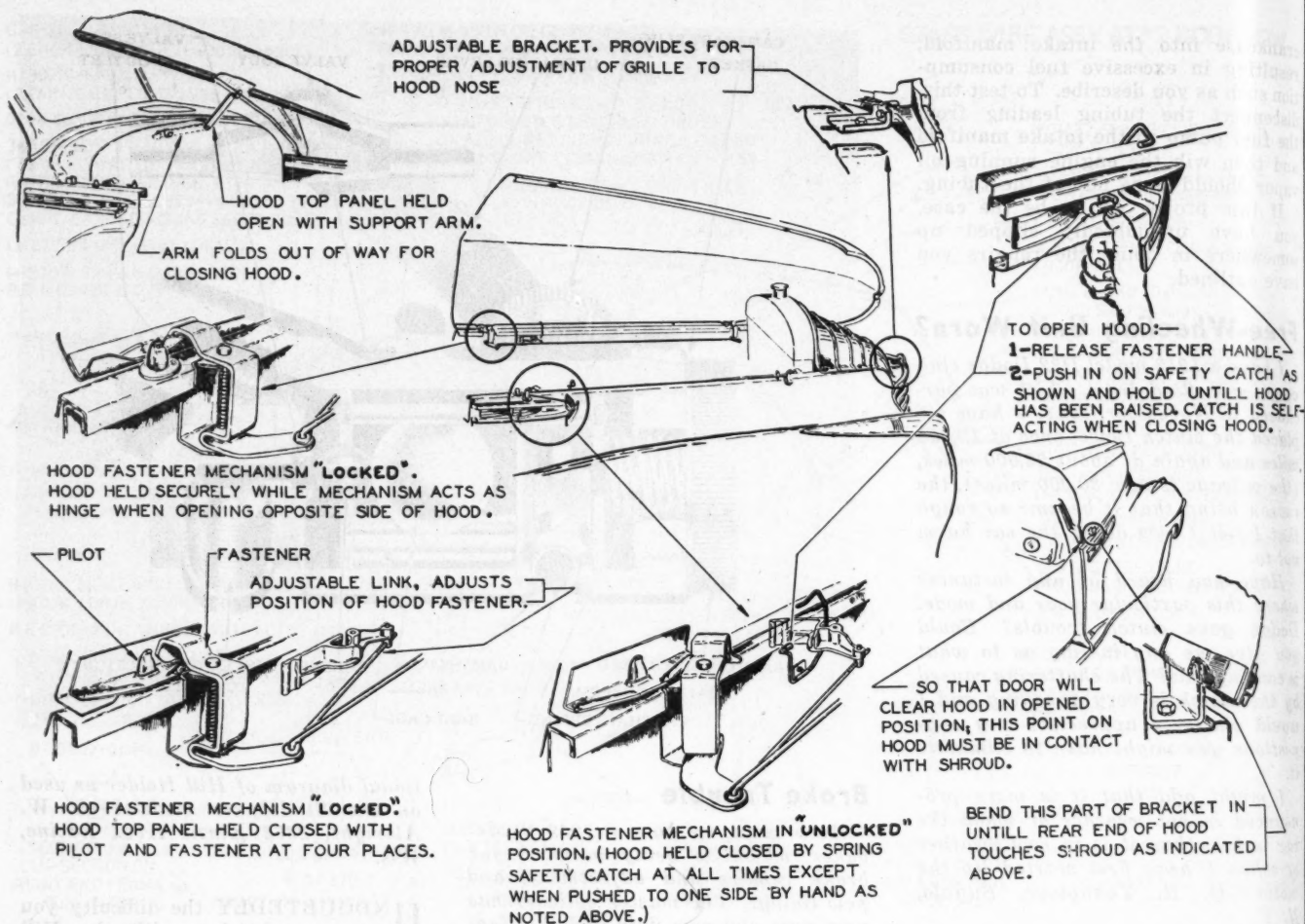
### Elusive Water Leak

I read in one of your articles a remedy for the overflow of radiators.

I have a 1939 Ford De Luxe which was overhauled last month. The radiator was cleaned and so was the engine. The radiator seems to be still clean, as, upon draining it and refilling, the water immediately starts to drain which seems to signify that there is no restriction. However, we removed the heads and replaced the gaskets and turned the head bolts







Hood Fastener Mechanism, 1941 Buick

down as evenly as was possible by feel, and the same condition continues.

The radiator never lost any water in 81,000 miles until the overhaul, now it loses about a gallon in 30 miles driving at 35 m.p.h.

Could it be possible that something has happened to the pumps that would not allow the water to return to the engine proper as fast as it is carried to the top tank of the radiator?

Knowing that your business is testing and diagnosing motor troubles, I would like your opinion if there is any other probable cause of it.—M/S Bob King, P. O. Box 6663, Roswell, N. M.

IN connection with the trouble you are experiencing with a 1939 Ford, I would suggest that first of all you determine just where the water is going. It's possible that, in spite of the fact you have cleaned the radiator, the passages are still obstructed so that you are losing large quantities out of the overflow.

As you know, radiators will rust very quickly while they are drained and work is being performed on the engine. As a matter of fact, some shops make a practice of keeping the radiator filled while work is being performed on the motor and in that way the tendency to rust is reduced.

One of the most frequent causes of overheating and loss of water is a

blown cylinder-head gasket. When this occurs, the hot gases from the combustion chamber go into the cooling system and the temperature raises rapidly and the water is then forced out of the overflow.

Of course, it is also possible with a bad cylinder-head gasket for water to leak into the combustion chamber and then be forced out through the exhaust. When this condition exists, you will, in general, also find quantities of water in the oil pan.

While I doubt that you have any difficulty with your water pump. I am inclined to think you will find the trouble is caused by either a defective head gasket or clogged passages in the water jacket or radiator. Further, in connection with the head gasket, it is not unusual for the cylinder heads to warp so that it is impossible to stop leaks. I would, therefore, suggest that you check the cylinder heads with a straight edge and, if necessary, have them trued on a grinder.

### Wrist-Pin Knock?

I've been against bad jobs many times but always came out O.K. till now. I have a 1939 Studebaker Commander in my shop with bad valves and low oil pressure. I installed six exhaust valves, two new valve guides, took up bearings, and cleaned carbon.

The customer said the car was not using oil, so I did not do any more. After I started the motor, it developed a knock which sounded like piston slap, so I took the head off, cut cylinder ridge, rechecked the valves, pulled the oil pan off, but no success.

Yesterday I pulled the motor down, put in expanders, new rings, put the motor together, and it makes a worse noise than ever. I rechecked the valves, pulled the pan down, looked to see if any of the rod bolts were out of place but could not see anything wrong. Will appreciate any information you could give me.—Joseph Bofamy, Wahpeton, N. D.

IT is rather difficult to say exactly what is causing the knock in your 1939 Studebaker Commander. However, since the knock evidently became worse after you installed rings, I am inclined to think that possibly it is caused by worn wrist pins. As you know, when you install new rings the added friction of the new rings will tend to increase the noise made by worn wrist pins.

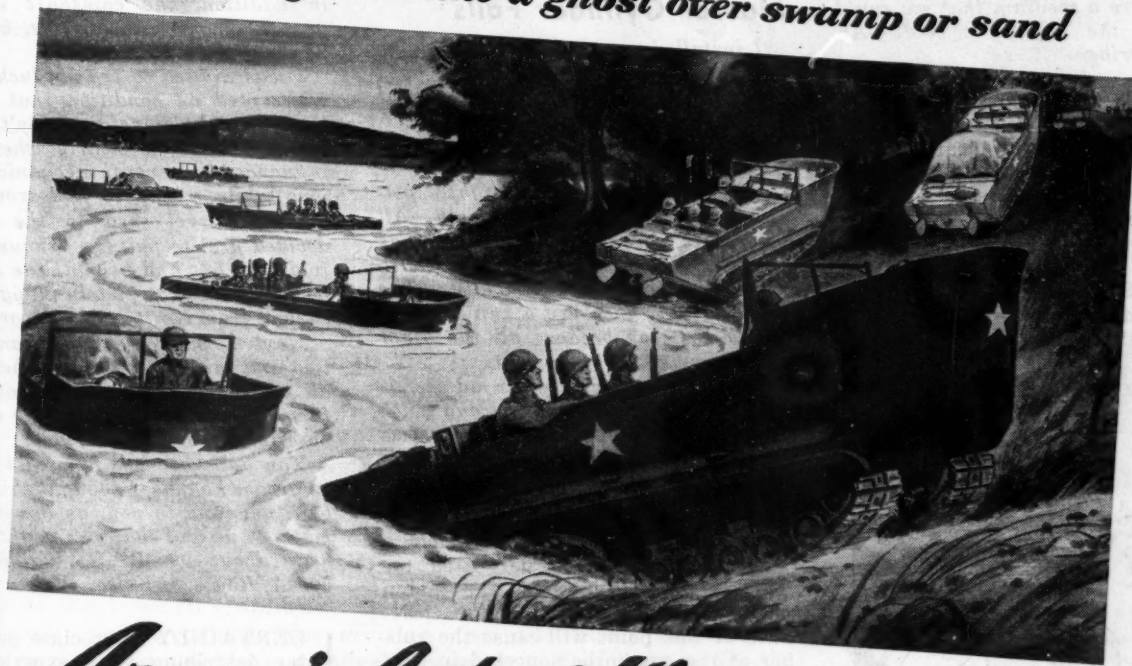
I also wonder if there is a possibility of the cylinder-head gasket extending over the edge of the cylinder bore so that it will be struck by the piston when it comes to the top of the stroke?

(Continued on page 48)

## Reproduction of a Studebaker advertisement in September newspapers

\* \* \*  
Studebaker now builds over \$1,000,000  
worth of war equipment a day

*Amazing new war vehicle travels in water...  
glides like a ghost over swamp or sand*

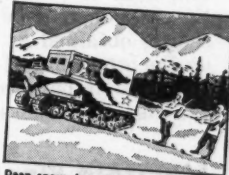


## Army's latest Weasel M29C

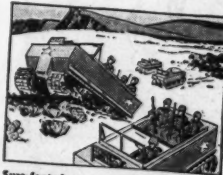
**Built by Studebaker and powered by famous  
Studebaker Champion engine**

HERE'S a brand-new example of the teamwork of the Office of Scientific Research and Development, the War Department and Studebaker engineers... It's the latest model of the Army's versatile track-laying vehicle known as the Weasel... This new M29C is just as much at home in water as it is on sand, mud, swamp or solid ground... It not only propels itself in deep water, fully loaded, but it also clambers up and down steep, slippery

banks with amazing ease... This new Weasel M29C is built by Studebaker under contract with the Ordnance Department, Army Service Forces. It's powered by the famous Studebaker Champion engine... It adds another important unit of war production to an impressive Studebaker list that already includes Studebaker-built Wright Cyclone engines for the mighty Boeing Flying Fortress and heavy-duty, multiple-drive Studebaker military trucks.



Deep snow doesn't faze the Weasel—Camouflaged like the crafty animal for which it's nicknamed, this M-29 model is almost invisible as it glides swiftly and noiselessly over seemingly impassable winter terrain.



Sure-footed even on shifting sand—The Weasel, with its Studebaker Champion power and flexible, rubber-padded tracks, has an uncanny ability to get through places where many other war vehicles would bog down.

**Studebaker... Pioneer and Pacemaker in Automotive Progress**

**BUILDER OF WRIGHT CYCLONE ENGINES FOR THE BOEING FLYING FORTRESS—MULTIPLE-DRIVE MILITARY TRUCKS—THE ARMY'S NEW M-29 WEASELS**



(Continued from page 46)

I would suggest you make an oil-pressure test on this engine to see which bearings are losing oil for, while I understand you have tightened these bearings, you might be losing an excessive amount of oil at the parting halves which would account for your low oil pressure. Of course, there is also the possibility that your knock is caused by worn main bearings and this will be disclosed when you test the bearings with oil.

### Setting Cold Valves

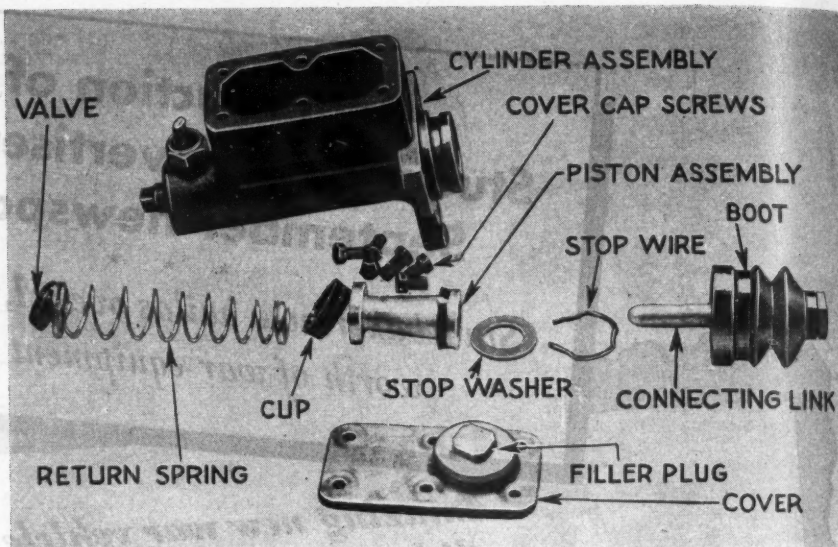
We small-town garages are up against a proposition that is pretty expensive to lick. Most car manufacturers advise setting the valve lash with the engine hot and running. We are not in a position to do this as we can't afford the special tools necessary for the different models.

Isn't there a medium that we could use while the engine is cold?—An Iowa subscriber.

**T**HERE is no standard conversion figure that can be used to convert hot clearance to cold clearance because valve stems are not all the same length or made of the same material. However, most mechanics add .001 in. to the hot clearance when setting valve cold, and it seems to work out all right. Some add .002 in. to be on the safe side, but generally speaking, I think .001 is sufficient.



"All right! All right! I'll see if the Army will give you a Purple Heart for it. But if you ain't working inside of the next ten seconds, I personally will shoot you for desertion."



### Master Cylinder Fails

I installed a master cylinder cup in a 1938 Plymouth. The job came back within two months, with the back of the piston considerably scored and cut. I installed another one, which came back in less time than the first one.

The cylinder was then slightly polished, as it seemed very smooth. All new parts were installed. The job has been out for quite a few months with no indication of any difficulty. The reason I only installed a cup the first two times was because all the other parts seemed to be perfect.

I would appreciate your advice as to what you think was wrong with this job and what caused these two cups to go the way they did.—New Jersey subscriber.

**Y**OU undoubtedly must have had a worn piston which permitted too much clearance between the piston and the cylinder wall. Undue clearance at this point will cause the rubber of the cup to be squeezed in that space under pressure and chew it up.

You should have installed a new piston the first time and undoubtedly would have avoided this difficulty.

It is good practice at all times, especially after a car has gone 15,000 to 20,000 miles, when master-cylinder work is necessary, to replace the piston, both to remedy the above condition as well as to be sure that a proper seal is obtained at the secondary cup on the other end of the piston.

Should it be necessary to hone the cylinder, use oversize pistons.

### Manifold Blocked

I have just read with interest the trouble that R. L. Perkins, of Oshkosh, Wis., was having with a 1940 Packard. It reminds me of similar trouble we had a few years ago with a 1936 Ford 85, a miss on No. 4 left bank. Several mechanics tackled the job, and a factory man also had a try at it. Everything was done that was mentioned in Mr. Perkin's letter and,

in addition, the camshaft was replaced, as were the valves, but with no success.

I was invited to try my luck, which I accepted on condition that I come back at night alone, as I don't believe one can think as clearly when being influenced by several mechanics' opinions while trying to find trouble.

When I returned to the shop I decided first to pull the exhaust manifold and, low and behold! the exhaust manifold was completely plugged with carbon from No. 4 to No. 3 port.

Next morning I cut the manifold in two and laid it on the workbench for all to see. Of course, the motor performed perfectly after a new exhaust manifold was installed.

You have been so helpful to all of us grease hounds, I thought this might be a new one to you, as it was to so many of us and that you might like to hear about it.—B. H. Wright, Box 502-A, Route 3, Kelso, Wash.

**I** CERTAINLY appreciate your letter describing your experience in locating a miss in a 1936 Ford. You are certainly to be congratulated in locating the trouble in that car, as it was very unusual to find an exhaust manifold clogged as you describe.

I think that possibly MOTOR AGE readers will be interested in your experience.

### Reverse Fails

We have a 1942 Chrysler Windsor. After this car has been driven 20 miles or more, you cannot shift into reverse. Please advise us as to a possible cure for this trouble. After car cools off, you can shift into reverse.—E. R. Dickinson, Trenton, Ky.

**I** AM quite sure that the trouble you are experiencing with a 1942 Chrysler Windsor is caused by the use of the wrong type of lubricant in the transmission. I would suggest you drain this unit and after a thorough flushing refill it with the proper lubricant.

# Now is the time

THIS SEASON is traditionally one for engine tune-up with special attention given to spark plugs and ignition.

This year, as never before, calls for spark plug service for nearly every car and truck in operation.

Now is the time for you to remind every customer that his car is no longer a new car.

Now is the time to point out that he needs the cleanest, hottest spark he can get from every spark plug to be sure of starting in the cold winter months ahead.

Now is the time to emphasize (what he already knows) that the only fuels available for civilian use absolutely require spark plugs that are clean, properly gapped, and in the correct heat range at all times.

Now is the time for you to inspect and test his spark plugs, and when new ones are indicated, install Champions.

Now is the time to stock and sell Champions—to show your customer that as a dealer in dependable Champion Spark Plugs, you render service that insures dependable engine performance in so far as spark plugs are a vital factor to that end.

DEPENDABLE

# Champion Spark Plugs

CHAMPION SPARK PLUG COMPANY • TOLEDO 1, OHIO



BUY WAR BONDS  
MORE THAN BEFORE  
TILL THE END  
OF THE WAR



## Hot Tips on Cold Plugs

(Continued from page 27)

"On the other hand, let's suppose a plug runs too hot. The excessive heat burns up the electrodes and the insulator starts to blister. The blister shorts the plug and often causes the mixture to ignite before it should. Pre-ignition leads to loss of power and waste of gasoline."

"Then," said Tommy, "if we take out a set of plugs and find they're pretty badly carboned up, it's a sign

the plugs were too cold, so we ought to put in a set of long plugs."

"It ain't quite that simple. Plugs come in a good many different lengths, one just a little bit 'hotter' than the next, or a little bit 'colder.' Every one is designed for a special operatin' condition. Before you put new plugs in a car, you want to be sure to check them against the car factory recommendations. It will save the owner plenty of trouble and save the shop a lot of squawks."

Tommy tossed the old plugs back into the box from which Pop had taken them. "I feel like I should have

been able to figure those things out for myself," he said.

"Every question looks easy when you know the answer. The only way you learn the answers in this busy world is to stick with it. That's what made me laugh when a lot of people was goin' to turn out mechanics overnight after the war started. They could of made nut twisters, but there's nothin' like experience. Do you know," he asked, "that race drivers and their mechanics can look at a spark plug and tell what kind of a mixture the carburetor is supplyin' to the cylinders?" Tommy looked his surprise. "I'm not kiddin'." They can.

"We don't have to be that good, but we can still learn plenty from lookin' at spark plugs. Take oily rings. Sometimes you pull a set of plugs and find 'em all gooey. That's just as good as an X-ray. It tells you right away that there's too much oil gettin' into the cylinders. So, naturally, you know the pistons or cylinder walls is worn or that the rings is worn or stuck.

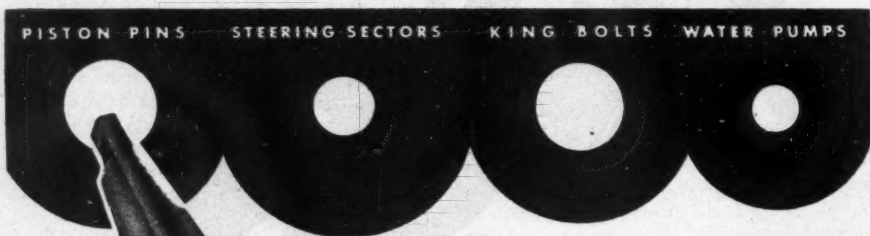
"Then, sometimes, you find a red or brown deposit on the insulator. That comes from the fuel. It takes a long while to accumulate but, when it does, it's bad, because it can short the plug. There ain't nothin' you can do about it, except clean it off. But then the plugs ought to be kept clean anyhow.

"Outside of the things I mentioned nothin' much can go wrong with a plug except havin' the insulator crack. Most of the time that's just plain carelessness, like hittin' it with a wrench. And, of course, the gap gets wider the longer it's used. That can't be helped, neither. The metal wears. When you set the gap on a plug, you always want to be sure to bend the side electrode. If you try to bend the center one, you're liable to break the insulator. And, another thing; always measure the gap with a wire feeler gage, like I told you to use on points.

"And finally don't let a customer keep a set of plugs in his car till he junks it. They're like everything else that was ever made or born; they wear out. Before the war, 10,000 miles was about as far as you could count on gettin' good service from a set. Since the war, shops have been so busy and parts so hard to get that a lot of people have got careless about replacin' plugs. But it's still a good idea to do things about as near right as you can."

"It would be wonderful if the war stopped soon, wouldn't it?" asked Tommy. "Then maybe we could get enough parts."

Pop laughed. "Maybe we could. But it's goin' to take an awful lot of parts to do all of the repairs people will be needin'. As soon as the fightin' stops, everybody and his brother will be drivin' their cars twice as far as they did before the war. I remember a long time ago I had an operation and the doctor wouldn't let me drive for a month. The day the time was up I drove 500 miles. I didn't go no place in particular. I just drove."



## PATENTED DUAL-SPIRAL REAMER FINISHES HOLES CHROME-SMOOTH IN ONE OPERATION!

Right-hand flutes spiralling in a direction opposite to left-hand flutes simultaneously, finish-ream absolutely accurately. Straight line expansion.

Blades may be sharpened up to eight times. Ideal for piston pin, king bolt, steering sector and water pump bushing jobs. Long pilots available. Seven sizes service all passenger car piston pins.

THE ONE  
BEST WAY  
TO FIT  
PISTON  
PINS

★  
ELIMINATES  
HONING



### REAMER DRIVES

25, 45, and 75 R.P.M. Two jaw chuck takes 1/4" to 1 1/4" diameters. 1/4 H.P. split phase motor for 50 or 60 cycle. 110 volt single phase. Foot pedal switch.

WRITE FOR CATALOG

# LEMPCO

6727 DUNHAM RD. • BEDFORD, OHIO



# Why stick your neck out?

The smart repairman takes no chances and stays with the ring leader...

McQuay-Norris Altinized Engineered Set Piston Rings. That's the sure way to avoid come-back jobs, win satisfied customers and make bigger profits.

*Always call your McQuay-Norris jobber first!*

McQUAY-NORRIS ALTINIZED ENGINEERED SET PISTON RINGS are designed and made to give new life to old and worn motors. There's a set of these rings engineered specifically for each make and model of car.



# McQUAY - NORRIS

PISTON RINGS • PISTONS • PINS • VALVES  
BOLTS • BUSHINGS • SILENT-U SHACKLES



BEARINGS • SLEEVES • PUMP PARTS  
WHEEL SUSPENSION PARTS





Lt. Comdr. R. O. Flood, at left, accepts another shipment from E. R. (Bob) Squires, Chevrolet dealer. Squires has collected a total of 252,400 for distribution to service men.

## Dealer Is One-Man USO

FOR two years now, E. R. (Bob) Squires, Chevrolet dealer at Oxnard, Cal., has constituted himself a one-man USO for American fighting forces. It all started in July, 1942, when, recalling his own World War experiences, he decided something should be done about supplying servicemen with reading matter.

He started out putting the "bite" on business associates, friends, schools, and clubs for magazines and other literature. To date, his box score is 252,400 magazines. His dealership is the collection point.

Making known his plan to nearby

Port Hueneme Naval Base, he found a warm welcome. Port officers have since undertaken to ship all of his contributions overseas.

Enlisting the aid of students of Oxnard Union High School, he hit the jackpot. They contributed 60,000 of the total. As a reward, he purchases War Bonds from the leading magazine-collecting school teams.

In World War I Squires, a Navy man, was stranded for eight months in the Mediterranean without any reading matter. It was from this experience his morale-building idea came.—Harold J. Ashe.

## Shop Thrives on Super Service

(Continued from page 32)

forth to the jobbers and thus waste time. Outside service calls were also eliminated except for wreck calls. This means that mechanics spend all the time inside the shop. They are furnished parts right on the spot as needed, and their work is supervised. As a result, production of the shop has been stepped up three-fold. It had to be in order to take care of the volume of business, even with considerable overtime.

One of the most profitable departments has been that of frame and axle straightening and wheel alignment, especially on trucks and buses. Morris said he wouldn't give up this department for any other. The jobs are nearly all labor, few parts being

required, and no job on the big truck machine runs under \$12. Men on this machine are quite proficient and have been able to do a front-end alignment job in as little as an hour and 45 minutes and the service has proved to be very profitable.

"We are just as well equipped as any shop in the area to turn out major overhauls, and, maybe at times, to do it a little faster," said Morris. "I know we have a number of fleet owners as well as individual owners depending on us for this service, and we feel we will retain their business after the war. We gave them good service at a time when service of any kind was hard to obtain.

"Naturally, we continue to sell gas

and oil, lubricate, wash and polish cars. As these services maintain contact with the motoring public and in that way act as 'feeders' to our shop. Our storage business is still considerable, as we are located close to the business section. But we have really rounded out the services of super-service station by building our repair shop until it is as good as any in the city from the standpoint of both equipment and service. We now have a new conception of the term 'super service.'"

## Accessories Manager

Tru-Test announces the appointment of Samuel D. Kennady as manager and director of its automotive accessories division. For the last 20 years, Kennady has been connected with Sears, Roebuck & Co., and Spingels, Inc., in the capacity of merchandiser and buyer of their automotive accessories departments. Kennady's background and experience will be a valuable addition to the post-war expansion program of Oakes & Co., of which Tru-Test is a division. He will make his headquarters at Oakes & Co.'s Chicago office in the Merchandise Mart.

## Cars Within 90 Days After Peace, Mason Hints

When the reconversion signal is given, Nash will immediately launch a car-building program aimed at tripling the company's pre-war production and is already ordering supplies and organizing manufacturing schedules on that basis, George W. Mason, president of Nash-Kelvinator Corporation, said at Chicago recently.

"Our post-war car and production are completely set, even to the point of having all initial supplies and parts under order, and much of our machinery ready," Mason said. "Just how soon after reconversion day the public will be able to have new cars depends upon a number of unpredictable factors, but I believe it will be sooner than most people have been led to expect.

"Most car manufacturers can build their first new cars in 90 days, plus the plus being for potential delays such as those which might arise from the lack of a vital machine here and there or an early supply bottleneck.

Addressing a group of Nash field representatives conferring here on post-war car-distribution plans, Mason asserted that his company would compete in the two major automotive markets after the war—the low and medium-priced fields—and that the entire Nash program is based on production of cars at an annual rate "three times our pre-war output."

Mason said that the motorist is due for surprises after the war.

# good hunting with CASITE'S

*"Double Your Money Back"*

**WINTER STARTING  
GUARANTEE**



Here it is again . . . the Casite "Winter Starting" campaign! Last year the Starting Guarantee sold millions of motorists on Casite. And again this year, backed by a hard-hitting, national advertising program, Casite demand will soar.

Get your trigger eye set for big game, big profits! For Casite, backed by the famous Double-Your-Money-Back guarantee, makes repeat customers. They like those lightning-fast, cold-weather starts . . . they come back again and again for Casite.

Remember! You have nothing to lose and plenty of business gain. Casite is sure of its product and backs it with a Double-Your-Money-Back guarantee.

Talk with your jobber salesman about Casite, look over the Casite winter sales kit—FREE with every case. And start aiming at those Casite winter sales. Good hunting!

**CASITE CORPORATION • HASTINGS, MICHIGAN**

CASITE advertisements appear regularly in:  
SATURDAY EVENING POST  
LIBERTY  
POPULAR MECHANICS  
COUNTRY GENTLEMAN  
FARM JOURNAL  
SUCCESSFUL FARMING  
MECHANIX ILLUSTRATED  
POPULAR SCIENCE  
SCIENCE AND MECHANICS

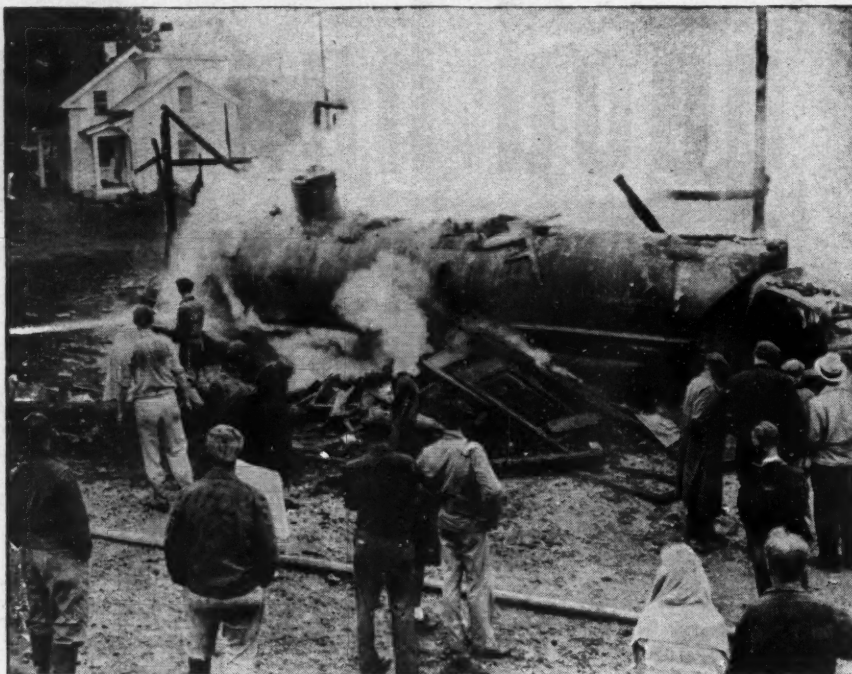


**CLEANS OUT MOTORS  
KEEPS MOTORS CLEAN**

**CASITE**



## Tank Truck Burns After Fatal Crash



After colliding with a passenger car, this tank truck burst into flames and crashed into the shed of a lumber company at New Lebanon, N. Y., burning to death the driver and a man who was working in the shed. Here the truck burns amid the ruins of the lumber shed.

## NADA Calls on Car Factories To Discuss Relations After War

Presenting a 12-point program as the basis for discussion, the National Automobile Dealers Association last month called upon automobile factories to discuss post-war problems with dealers.

"Automobile dealers throughout the nation face many uncertainties during the period prior to the resumption of normal peacetime business," said the NADA. "They will of necessity have to make many adjustments before they will be able to actively participate in the efficient distribution of automobiles after production has been resumed. The policies of distribution to be followed, therefore, by each of the automobile manufacturers are of vital concern and interest to each dealer and particularly with respect to the manufacturer with which he does business."

The 12 points contained in the program, which was ratified by members of the dealers last month, follow:

1. Each automobile manufacturer who has not already done so, is urged to state to its dealers insofar as may be practicable, its plans with respect to its distribution policies after the War, particularly as those policies may define the consideration to be given and the allotment of cars to be made to dealers who have stayed in business and accepted their responsibility of maintaining active service

facilities throughout the War, as compared to dealers newly appointed after the War.

2. Larger discounts on all cars and trucks should be seriously considered by all manufacturers to enable their respective dealers to meet greatly increased costs of operations, which costs include among others, rentals, salaries, labor, unemployment and all other taxes and general over-head expense, and to provide proper and adequate service to car owners after sales.

3. Manufacturers and dealers should work together in an effort to expand the distribution of parts through franchised dealers on a competitive basis. The matter of discounts on sales of parts and accessories should be made the subject of a conference between each manufacturer and representatives of its dealers, in order to form and develop a more equitable discount policy.

4. Manufacturers should not require, suggest, infer or recommend that their respective dealers grant discount to fleet owners on the sales of parts installed in repair operations in the shops of their respective dealers.

5. There should be a continuing selling agreement between the manufacturers and their respective dealers, subject to cancellation or termination

only for just cause or by mutual consent of the parties thereto. There should be created by each manufacturer a Board of Appeals to consist of representatives of the manufacturer and representatives of its dealers. Upon the request of a cancelled dealer, the Board should review the facts and circumstances surrounding the cancellation." Above provisions should be incorporated in the selling agreement between each manufacturer and its dealers.

6. In the event of the death of a dealer his heirs or his estate should have a reasonable opportunity to prove their ability to satisfactorily carry on the business and in the event of the necessity of a sale or liquidation of the business of a deceased dealer, these proceedings should be taken on the basis that the business is a going concern with a reasonable allowance for good will.

7. Each manufacturer, who has not already done so, is urged to include in its selling agreement with its dealers, a proviso that in the event of the cancellation or termination of a dealer's selling agreement, some reasonable reimbursement should be made to the dealer for his obligations under a written lease for premises used exclusively in his business.

8. In order to make possible fair competition between the dealers of the same manufacturer and to make possible the maintenance by them of adequate plants and facilities, each manufacturer should only appoint dealers in any trading area in strict proportion to the sales potential in that area.

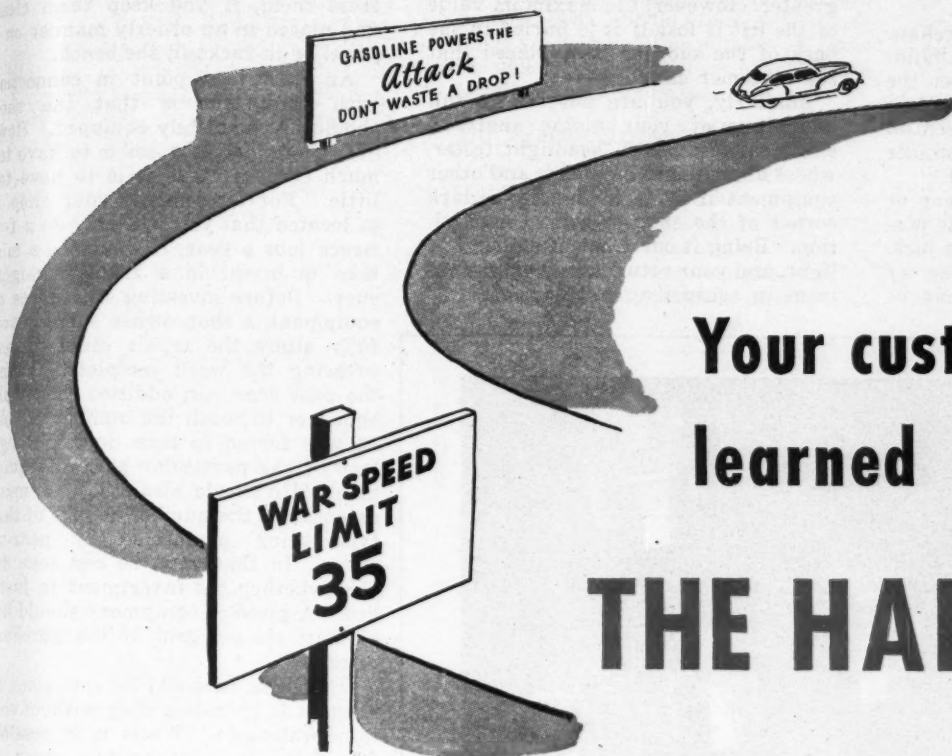
9. Dealers should be required to confine their sales of new vehicles to their respective areas. If dealers make sales outside their respective areas, they should compensate the dealer into whose area the sales are made.

10. Manufacturers should make all sales of new vehicles exclusively through their respective franchised dealers. The dealers should receive from their respective manufacturers the usual and customary vehicle discount on all extra items in connection with their purchase of cars and trucks.

11. Upon the introduction of new models of vehicles, the manufacturers should make fair and reasonable adjustments with their dealers on all superseded models remaining in their stock, excluding demonstrators, to compensate their dealers for losses incurred in disposing of such discontinued vehicles and in the event of a reduction in the prices of vehicles, manufacturers should make fair and reasonable adjustment.

12. Manufacturers and their respective dealers should mutually agree upon the probable potential of a dealer's territory and manufacturers should ship vehicles only with the approval and consent of their respective dealers.

VALVOLINE . . . FIRST OF THE PENNSYLVANIA OILS



## Your customers have learned about OIL THE HARD WAY

Wartime driving has taught millions of American drivers the value of top-quality motor oil. The plus-protection so vital today, its long-range economy—these have made Valvoline the choice of careful car owners since America's first car was built. In 1866 Valvoline made the first mineral lubricating oil—and in 1944 you can't buy a better motor oil. Valvoline brings you customers and keeps them coming back REGULARLY.

# VALVOLINE

## MOTOR OIL

COSTS MORE TO MAKE -- COSTS LESS TO USE

*Finest Lubricating Oils since 1866*



VALVOLINE OIL COMPANY -- 579 East Fifth Street, Cincinnati 2, Ohio -- Refinery at Butler, Pa.  
New York - Atlanta - Chicago - Detroit - Los Angeles - Vancouver - Washington, D. C.

OCTOBER, 1944

*When writing to advertisers please mention Motor Age*



## Post-War Shop

(Continued from page 23)

and, secondly, to act as a merchandizer, attracting car owners and building customer confidence. To get the greatest return on your investment in the equipment, it is therefore essential that it be placed where the customer can see it and be duly impressed.

For example, to lubricate a car or to perform other work on it, it is possible to raise a car with a garage jack. However, if, instead of a jack, the car is placed on a lift, the work can be

performed more quickly, as the mechanic is in a better position to work efficiently. Since the work can be completed sooner, the profits will be greater. However, the maximum value of the lift is lost if it is buried in the back of the shop or is so placed that the customer cannot see it.

Similarly, you are not taking full advantage of your motor analyzer, electrical test bench, headlight tester, wheel aligner and balancer, and other equipment if it is hidden in a dark corner of the shop or behind a partition. Bring it out front, use plenty of light, and your returns on your investment in equipment will increase.

Similar advantage can be taken of hand tools. A good kit of wrenches, etc., will cost approximately \$100. You will only be getting full value from them, if you keep them clean and placed in an orderly manner on a panel or in racks in the bench.

An important point in connection with equipment is that the shop should be completely equipped. However, it is just as possible to have too much equipment as it is to have too little. For instance, if your shop is so located that you will only do a few wreck jobs a year, it would be a mistake to invest in a frame straightener. Before investing in a piece of equipment, a shop owner should carefully study the repair order tickets covering the work completed during the past year. In addition, he should endeavor to recall the number of jobs he was forced to turn down through lack of the particular piece of equipment. He should also study, as much as possible, the number of jobs of that type being performed by near-by shops. In that way, he can soon decide whether the investment is justified. A piece of equipment should net at least six per cent of the purchase price.

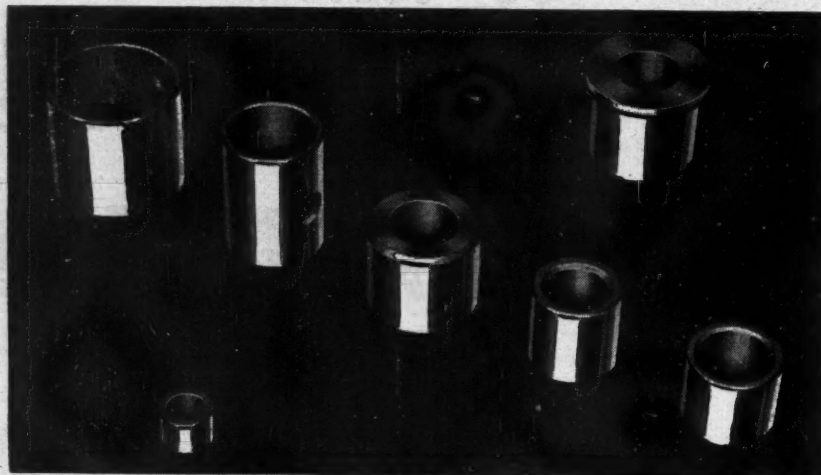
Of course, it would be ridiculous to attempt to operate a shop without certain equipment. While it is possible for shops in metropolitan areas to have a lot of machine and other forms of work performed by the local jobber, frequently so much time is lost in waiting for the work to be done and returned, that the shop would be financially ahead if it purchased the equipment.

For instance, some shops try to get along without a valve refacer by having the valves refaced at a local jobber. The charge for such work is 10 to 15 cents per valve, or \$1.20 to \$1.50 for a six-cylinder engine. At that rate most shops could pay for a refacer in a year's time. Of course, some jobbers place the refacer on the counter so that the repairman could do the work himself and then no charge would be made. However, the refacer, under such conditions, is invariably in such poor condition that the valves would not be true.

By having the equipment in his own shop, the repairman would save considerable time, turn out better work and, in addition, the equipment could be used to impress customers and merchandise additional service and repairs. The purchase of equipment should, therefore, be studied from all these angles.

As previously mentioned, equipment should be placed so that customers can see the work being performed. However, there is a limit to such space and it becomes necessary for the repairman to decide what equipment and repairs should be given the preferred position. In large shops, this is not such a problem, as they have more of such valuable space which can be viewed by the customer as he passes

(Continued on page 59)

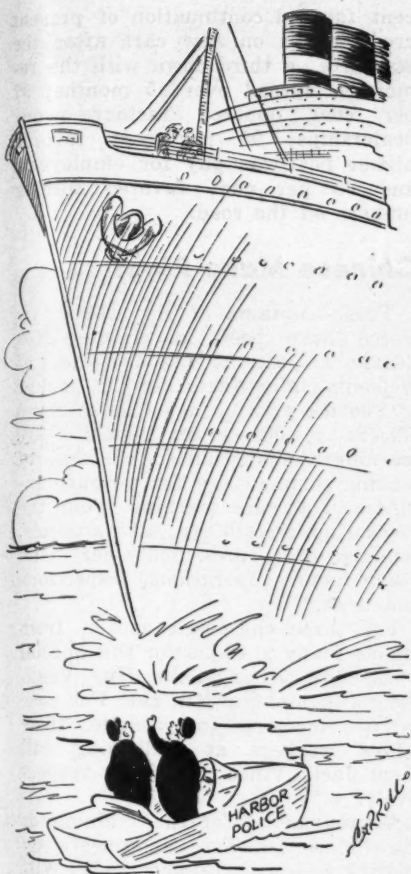


## POWDER METALLURGY for AUTOMOTIVE APPLICATIONS

● This new and unusual type of bearing is now serving many important automotive applications and giving remarkable performance in each case. Excellent delivery is available on such items as Generator and Starter, Water Pump, Spindle Bolt, Clutch Pilot, Clutch Finger, and Steering Sector Bushings. Write for new descriptive literature—TODAY.

**JOHNSON** **BRONZE**  
SLEEVE BEARING HEADQUARTERS  
455 S. MILL STREET NEW CASTLE, PA.





"Hey, you!! Pull over to the curb."

## Post-War Shop

(Continued from page 56)

the shop or as he drives in the entrance. The smaller shop frequently is limited to featuring a single service, the remainder of the work being performed at the rear of the shop where it cannot readily be seen by the car owner. Under such conditions, the repairman should consider not only the profits he will get from the particular repairs but also the number of such jobs that are being performed each month in his vicinity. In this connection, it is frequently necessary to study the work being done by neighboring shops.

Another factor to be considered when placing equipment is whether it will interfere with the free movement of cars in and out of the shop. Obviously, it would be foolish to start a major overhaul where it would prevent any cars from entering the shop or where it would make it difficult for cars to be driven to other sections of the shop. However, it is impossible to give definite suggestions which will cover all conditions, as each shop is different and has its own individual problems. The editors of MOTOR AGE will be only too glad to assist in advising any shop owner and assist him in laying out his shop to best advantage.

Naturally, cleaning and painting a shop, making alterations to improve its appearance and increase its capacity, and the purchase of equip-

ment, will materially increase the investment in your business. And, while these improvements, in themselves, will tend to attract additional customers, you should take additional steps to increase the number of your customers. This will be discussed in detail in the next issue.

## 60 Firms Join NSPA

The steadily mounting membership strength of the National Standard Parts Association has just been augmented by 60 automotive after-market wholesalers and manufacturers, whose applications were acted upon

at the organization's recent executive conference at Cincinnati.

One of the largest ever admitted to NSPA, this latest group brought the new member total for the first half of the year to approximately 100 member firms and established another new all-time high for the association which has consistently exceeded previous membership records during the past several years.

Included in the new list are 52 wholesalers and 8 manufacturers representing automotive production and distribution in 28 states and the Dominion of Canada.

for

- SERVICE
- PERFORMANCE
- TURNOVER
- PROFIT

**CONCENTRATE on**

# NIEHOFF

**APPROVED QUALITY PRODUCTS**




We recommend systematic ordering which will provide for you, readily, most of your requirements on Ignition and will place your business on a sounder and more profitable basis.

Ordering once or twice a month on a normal turnover basis is advocated. The trend is definitely favorable toward better service on nearly all Niehoff Ignition Parts.

Niehoff Sales and Service Engineers will help you to work out a method that will simplify your ordering problems. Ask for their cooperation or write us for further particulars as to procedure.

**C. E. NIEHOFF & CO • 4925 LAWRENCE AVE. CHICAGO 30, ILL.**

BRANCH: 1342 S. Flower Street, Los Angeles 15, Calif.



## Powell Chosen President by Pennsylvania Dealers

Earl J. Powell, of Upper Darby, was elected president of the Pennsylvania Automotive Association at the organization's annual two-day meeting at Philadelphia late last month. Powell had previously served as vice president. He succeeds Russell W. Frantz, of Wilkes-Barre.

As retiring president, Frantz automatically became one of the association vice presidents. Other vice presidents elected were Samuel H. Parker, of Bellevue; Guy Woodward, of

Washington, Pa.; Russell C. Jones, of Reading; and Henry J. Fritz, of York. Albert W. Golden of Reading, was named secretary-treasurer.

More than 500 delegates who attended the meeting heard the result of the recent poll conducted among the members by Claude S. Klugh, manager of the association. Of the 612 replies received to the questionnaire, Klugh announced, 91 per cent opposed "overproduction and forced deliveries" by manufacturers, and 42 per cent favored government control of production.

Other replies revealed that 84 per

cent favored continuation of present credit terms on new cars after the war, i. e., a third down with the remainder spread over 15 months; 97 per cent opposed factory-owned dealerships; 93 per cent favored higher post-war pay for employees; and 93 per cent favored forcing junkers off the road.

## Chinese Make Rings

Three captains of the China Air Force have been in training for nearly a year at the factories of Wilkening Manufacturing Co., maker of Pedrick piston rings. These three officers of our sister republic are learning the specialized business of making piston rings for aircraft engines. They are learning from the ground up, metallurgy, sand analysis, foundry procedures, machinery and other factory operations, inspections and tests.

The three engineers, chosen from among many in China for this special work, are Kuang-Chia Hu, Veng-Song Doo and Sze-Min Hu. For ease on the memory and tongue, their fellow workers at Wilkening call them Jack, Vince and Sam, respectively.

Arrangements for the training of the China Air Force engineers by Pedrick was made between F. W. Wilkening, president of the company, and Colonel Lyn Chu, representing the Commission on Aeronautical Affairs for the Republic of China.

## Sales Regions Created

Chrysler Division of Chrysler Corp. announces creation of seven new sales regions in the United States in anticipation of new-car sales. The division now has 28 such regions.

Manager of the new regions and their locations are: John F. Zeder, Jacksonville, Fla.; Ralph L. Weber, Pittsburgh, Pa.; A. A. Engstrom, Milwaukee, Wis.; Frank P. McGrath, Bismarck, N. D.; and V. N. Alderman, Salt Lake City, Utah. Managers of the New Orleans and El Paso regions will be announced later.

In the Philadelphia region, Harold F. Keegan has been returned as manager, a position he held before the war. Porter T. White, acting manager at Philadelphia, has been made manager of the Seattle district to succeed M. T. Kale, who has been appointed special factory representative of the district.

## Henry F. du Pont Resigns

The board of directors of General Motors Corp. on Sept. 5 accepted the resignation of Henry F. du Pont from membership on the board, and in his place elected Lamot du Pont Cope land, a member of the Finance Committee of E. I. du Pont de Nemours & Co.



**THESE LITTLE THINGS ARE WINNING THIS WAR**

American Shells, plenty of them, are thundering and screaming the American answer to the treachery of Pearl Harbor. American Trucks, many makes of them, are seeing to it that these shells get to the battle fronts all over the world, on time. American Tools, like the K-D Tools shown here, are keeping these trucks fit and fast, and hustling to feed the guns. *These little things are winning this war!* K-D Manufacturing Company, Lancaster, Penna., and Hamilton, Ontario.

**K-D TOOLS**

TOP, K-D 600 Valve Lifter, adjustable, tempered jaws.

CENTER, K-D 900 Hi-Offset Lifter, ideal for use under fenders. Auxiliary jaws shown ready for use.

RIGHT, K-D 115 Ignition Point Adjusting Tool, does the job right in the distributors.

K-D TOOLS are still available for repairing essential cars and trucks. See your Jobber or write the factory.

**K-D TOOLS**  
*The Hustlers for Your Toolbox!*

# For Safety's Sake-



*always specify genuine*

## WAGNER LOCKHEED HYDRAULIC BRAKE PARTS and FLUID

Wagner Lockheed No. 21 Hydraulic Brake Fluid is an ALL-WEATHER, YEAR-ROUND brake fluid for ALL hydraulic brake systems. It retains its highly efficient qualities under all driving conditions . . . Completely and properly mixes with other approved brake fluids.

Wagner No. 21 is readily recognized by the familiar red, white, and blue design with No. 21 in the circle.

IF NEW PARTS ARE NEEDED to repair the hydraulic brakes on any car or truck—Wagner Lockheed Hydraulic Brake Parts are recommended for superior quality, perfect fit, proved performance, and long life.

There's a Wagner jobber near you who is prepared to take care of your requirements. If you don't know his name, write us today.

AUTOMOTIVE  
PARTS DIVISION

**Wagner Electric Corporation**

ESTABLISHED 1891

**AUTOMOTIVE AND ELECTRICAL PRODUCTS**

6498 PLYMOUTH AVE.  
ST. LOUIS, 14, MO.

H44-13



## Nichols Named President By Tennessee Dealers

Tennessee Automobile Dealers' Association completed its two-day annual at Chattanooga, Sept. 8. The session was held somewhat earlier in the season than usual and was attended by about 150. There were several entertainment numbers, including dinners and golf.

N. Z. Dezendorf, vice president of General Motors, told the dealers they could expect a great period of expansion after the war, predicting a demand for at least 12,000,000 cars

in the first two years, and that the next annual meeting of this association would take place in peace time with business returning to normal.

Mentioning dealer-manufacturer relations, he said there were no two identical selling agreements anywhere between dealers and manufacturers, because the agreements must be based on a number of varying factors, location, population, etc., and that was one of the reasons that there could be no successful governmental regulations of dealer-manufacturer relationship.

Ralph Nichols, of Nashville, was elected president of the association

to succeed Harry F. McClure, Chattanooga.

Vice presidents elected are R. C. McClure, Bristol; Troy Douthitt, Memphis; Gordon Wilder, Huntington; Frank McNutt, Maryville; Emmett Newton, Chattanooga; James S. Frazer, Nashville.

John Ross Scott, Hamilton National Bank Bldg., Chattanooga, was re-elected secretary; H. G. Roberts, Dyersburg, was re-elected treasurer.

The officers are chosen by the board of directors, composed of 28 old members and ten new ones. The newly elected directors are: Claude Word, Manchester; W. C. Terry, Oneida; John Wellford, Memphis; Dan Connelly, Chattanooga; W. C. Tisdale, Jackson; W. L. Yearwood, Fayetteville; R. L. Parnell, Nashville; Roger Percy, Elizabethton; John Walker, Covington.

# STOP

## THE DANGER OF CARBON MONOXIDE GAS



Illustrated above in miniature are Wall Poster, Window Streamers, Folders, and Warning Tag—all furnished free.



Mark of Merit

Use these attractive sales helps to tell your customers the real danger from carbon monoxide in exhaust fumes . . . You'll make friends — and you will sell more MERIT MUFFLERS.

Ask nearest BASCA jobber for free sales helps, or write us.

**BASCA MANUFACTURING COMPANY, INC.**  
3001-3101 Roosevelt Ave. • Indianapolis 1, Indiana

# MERIT

## HIGHEST QUALITY REPLACEMENT MUFFLERS

## Makes Production Film

A new 30-minute motion picture, "An Exact Duplicate," in colors and sound, showing many new techniques in Tracer-Controlled milling, engraving, etching, and duplicating has been completed this month by the George Gorton Machine Co., of Racine, Wis.

This motion picture is designed to provide its audiences with short-cut solutions to post-war production problems. It gives production men an opportunity to see Tracer Control at work on actual jobs and to hear simultaneously a description of the work as it progresses.

"An Exact Duplicate" is available without charge for showing at meetings of technical societies, company groups, etc. All expenses of the showing are borne by the George Gorton Machine Co. Arrangements can be made by writing to the George Gorton Machine Co., giving full information and the date showing is desired, together with two optional dates.

## Promoted to Sales Chief

Minnesota Mining and Manufacturing Co., St. Paul, inn., announces the advancement of H. C. Kenyon to the position of general sales manager of the Inland Rubber Corp., Chicago, Ill. He will assume his new post immediately.

The Inland Rubber Corp., a subsidiary of the Minnesota Mining and Manufacturing Co., has an entirely independent sales organization for the development and expansion of sales of Inland products and other products that will subsequently be added to the present Inland line. At present, Kenyon will direct an active sales campaign of Inland vulcanizing equipment and tire-patching materials which the company has inaugurated to relieve the tire shortage problem.

# Blacksmiths by the millions!

*"And the children coming home from school*

*Look in at the open door;  
They love to see the flaming forge,  
And hear the bellows roar..."*

CHILDREN dropping into General Motors nowadays would see both flaming forges and roaring bellows — lots of them.

But they would see, in addition, millions of little, mechanical blacksmiths doing a strange and fascinating job.

We call it "shot-blasting," and it consists of shooting little steel balls by compressed air at steel surfaces. Every time a little ball hits, it puts the surface under compression. It hardens, strengthens, and the breaking point moves up.

Up to wartime, shot-blasting was one

of the many techniques General Motors engineers adopted and developed to make more and better things for more people. Your own car benefited from it.

But suddenly the sky began to fill with rolling, leaping, stunting planes — training for combat. And the straining connecting rods and other vital parts in those planes needed special treatment to keep surface cracks from opening.

Shot-blasting moved in on the job. And those millions of little blacksmiths beat and hardened the surfaces of those parts until they were the toughest ever known.

This very day, pilots diving our cannon-bearing planes on enemy tanks ride safer because of this



peacetime technique. And that white-starred streak you see in the sky — twisting, rolling, climbing — flies on shafts able to resist the great strains and stresses set up in action.

America's industrial records are filled with many such highly developed techniques because, in our land, men receive just rewards for their enterprise.

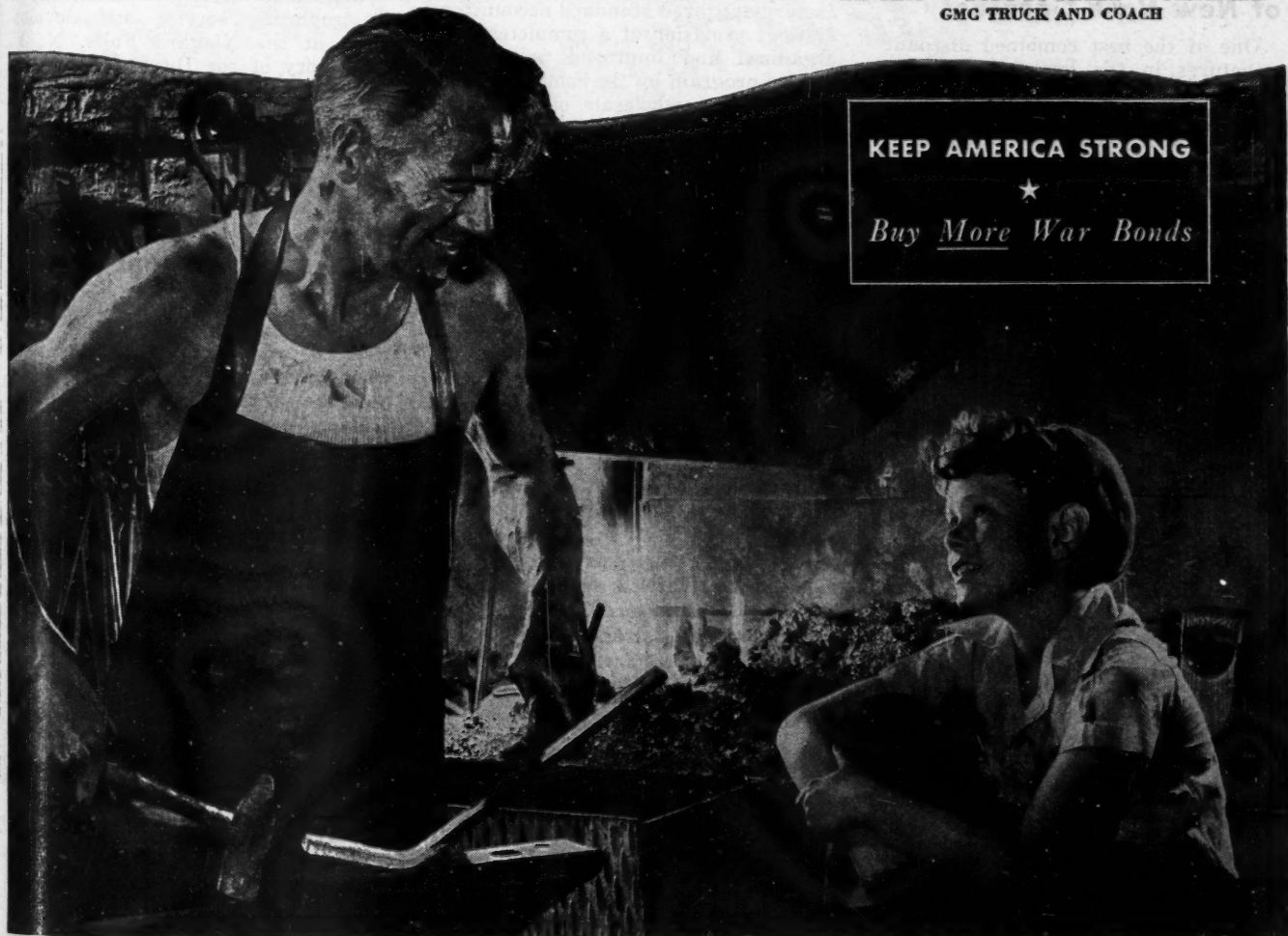
This idea of just rewards helped make our country so good to live in. It has clearly demonstrated its value in war. And it holds the certain promise of more and better things for more people in the fruitful years ahead.

## GENERAL MOTORS

**"VICTORY IS OUR BUSINESS"**

CHEVROLET • PONTIAC • OLDSMOBILE • BUICK  
CADILLAC • BODY BY FISHER • FRIGIDAIRE  
GMC TRUCK AND COACH

Every Sunday Afternoon — GENERAL MOTORS SYMPHONY OF THE AIR — NBC Network



**KEEP AMERICA STRONG**



*Buy More War Bonds*



## Interrupted Automobile Production



This is a view of the Renault Motor Works at Billancourt, France, after they had been subjected to a thorough plastering by the Eighth U. S. Air Force. Before the bombing crews rearranged the production schedule, the plant built 40 trucks a day for Hitler.

### Car Bonus Is Feature of New Nash Contract

One of the best combined discount structures in the low and medium-priced fields, substantial bonus car allotments during the period of the sellers' market, and distribution based on the principle of more cars for fewer dealers are cardinal points of the new two-market dealer franchise with retroactive volume discount announced recently by Nash Motors Div. of Nash-Kelvinator Corp. Although discount figures have not been revealed, they are said by the company to be the highest in Nash history and second to none in the low and medium-priced fields. The retroactive provision, which provides a car bonus of 60 per cent or more over the basic contract for the first four years, covers combined sales in both price fields and goes back to the first car sold.

Nash will endeavor to place a smaller number of dealers on a sound basis by concentrating its increased post-war deliveries on 1500 important-market dealers. Protection against infringement of territory by another dealer is provided in the franchise, with the company or zone making payment of the infringement fee upon proof. Refunds on price changes, rebates on model changes and repurchases upon cancellations also are provided. Another important feature is that the new contracts run until Sept. 30, 1946, with provision made for cancellation for well-accepted causes, such as bankruptcy

or death. Other features of the franchise are the required use of a factory-approved standard accounting system; provision of a completely reorganized and improved parts and service program by the company; setting up of a wholesale organization comprised of 15 or 16 corporation zones and 12 distributor zones, and an aggressive advertising campaign in various media to support the dealer program.

After the war, Nash will concentrate on its Ambassador Six and on the low-priced "600."

### Spring Plant Enlarged

A 100,000 sq. ft. addition to the William & Harvey Rowland, Inc. Philadelphia factory has just been completed and dedicated. The plant addition has been so arranged that it will facilitate the manufacture of springs, especially "short runs." Six new shipping bays have been constructed so that six trucks can be loaded simultaneously. New and spacious office quarters are a part of the new plant expansion.

### Fire Film Released

Because of the unprecedented demand for its motion picture "Flame Facts," Walter Kidde & Co. have retained Princeton Film Center as distributing agents. This 20-minute, 16 mm. Kodachrome sound film shows how and why fire burns, the appropriate extinguisher for each type of

blaze, and its correct use. It illustrates some of the common errors in industrial first-aid fire fighting which can be responsible for failure, and gives valuable tips on fire prevention.

Eligible groups who wish to obtain "Flame Facts" may apply to Princeton Film Center, Princeton, N. J., for bookings at a charge of 50c each to cover handling costs.

### Elected Vice President

Roy T. Hurley has been elected vice president of Bendix Aviation Corp. and has been assigned the special problem with which the corporation is confronted in the reconversion and immediate post-war period, it has been announced by Ernest R. Breech, president.

The new responsibilities which Hurley, formerly staff executive on production matters, will assume, deals particularly with the corporation's requirements for plants and facilities, factory layout and tooling of the corporation's products, Breech said.

### Heads Plating Division

H. L. Benner has been appointed Detroit technical representative of the Electroplating Division of E. I. du Pont de Nemours & Co.

Benner formerly was in charge of electroplating service and development at the Niagara Falls, N. Y., laboratory of the Du Pont company. With headquarters at 1530 East Hancock Ave., Detroit, he will cover all of Michigan, except the Upper Peninsula, reporting to the Chicago office of Du Pont's Electrochemicals Department.

### Old Employees Honored

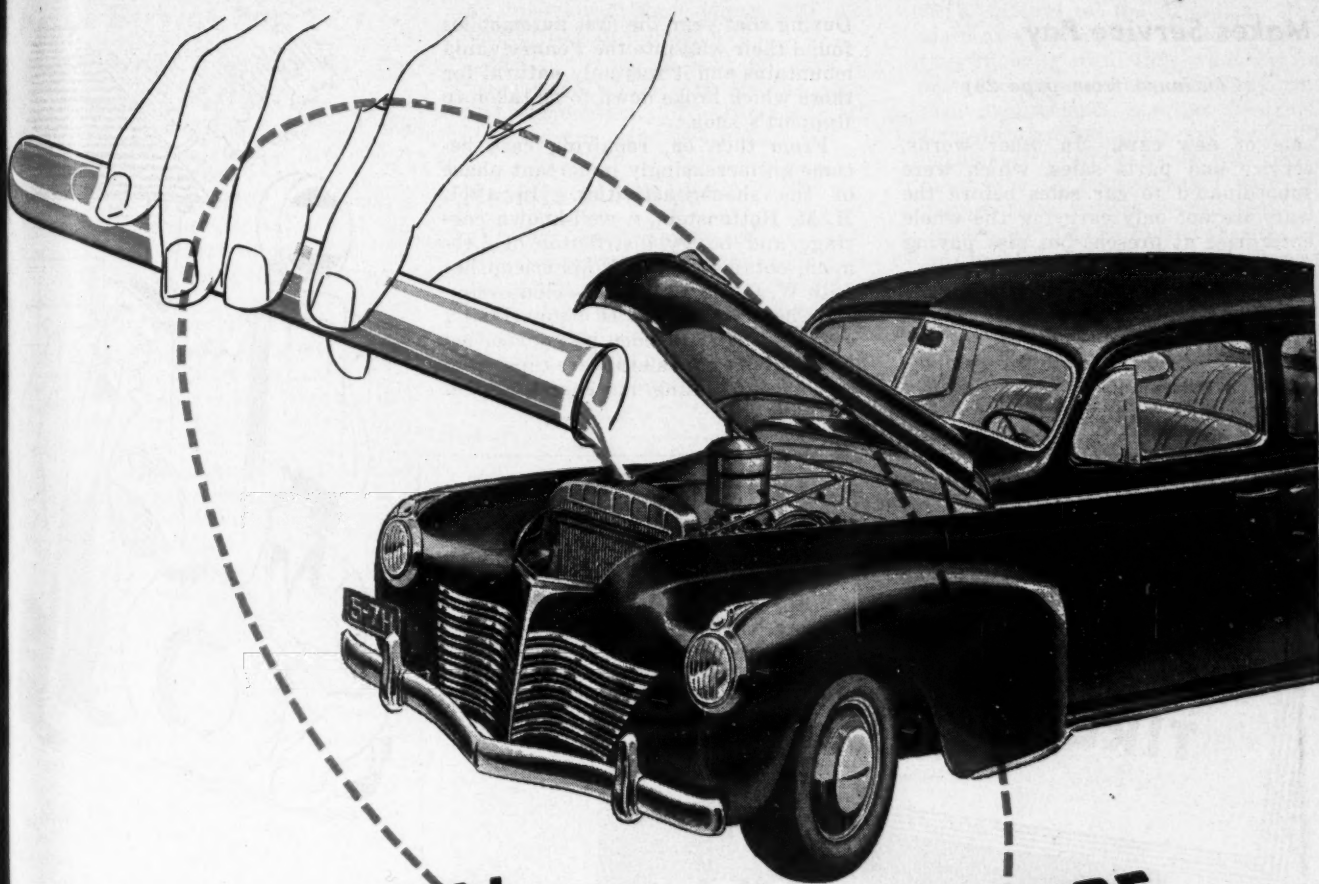
Tenth anniversary of the Twenty Year Service Club of The B. F. Goodrich Co. was celebrated on Sept. 15 when 292 employees received 10, 20, 30 and 40-year emblems from John L. Collyer, company president. There were 245 pins presented 20-year employees, 46 to 30-year employees and one to a 40-year veteran, all of whom have had their service anniversaries during the last year.

### Allocates Trucks

John J. Dunn has been appointed truck distribution manager for the Dodge Division of Chrysler Corp. He will allocate new Dodge trucks to dealers.

### Engineering Chief

George H. Hufferd, formerly chief engineer for Thompson Products' Detroit Division has been made vice president in charge of engineering for Weatherhead Co.



## CHEMISTRY and COOLING-SYSTEM SERVICE

Preparing the cooling-system for winter means more than pouring in a few quarts of anti-freeze. It means more than mechanical adjustment and tightening. It means *chemical* servicing, too—thorough cleansing of radiator tubes and water jacket . . . rust prevention . . . assurance against loss of anti-freeze through leakage or seepage!

The famous Hollingshead chemical laboratories have developed chemical compounds for complete cooling-system service—flushing out rust, scale, and sludge . . . preventing the formation of new deposits . . . sealing radiator and water jacket leaks permanently. *R. M. Hollingshead Corporation, Camden, New Jersey; Toronto, Canada.*



BUY MORE BONDS!

**Hollingshead**  
LEADER IN MAINTENANCE PRODUCTS



## Makes Service Pay

(Continued from page 29)

sale of new cars. In other words, service and parts sales, which were subordinated to car sales before the war, are not only carrying the whole enterprise at present but also paying a profit.

Ruppert, perhaps, was in better position than many dealers to appreciate the possibilities of service. In 1907 he was already well-established at Tremont as a blacksmith, wheelwright, and carriage builder.

During that year the first automobiles found their way into the Pennsylvania mountains and it was only natural for those which broke down to be taken to Ruppert's shop.

From then on, repairing cars became an increasingly important phase of the shop's activities. In 1911, H. M. Hottenstein, a well-known carriage and buggy distributor of Lebanon, obtained through his friendship with W. C. Durant the distributorship for Chevrolet cars in 10 Pennsylvania counties. The first men he approached as possible car dealers were those who had been handling his carriages and buggies.



"Personally, I'd say it's done for, but, if you'd feel better, I'll call in a consultant before giving a final answer."

# WE REPAIR TIRE CHAINS

# WE PUT 'EM ON and TAKE 'EM OFF

# WE SELL *Pyrene* TIRE CHAINS

## SELL COMPLETE TIRE CHAIN SERVICE

To make money this winter with limited supplies of new tire chains, be sure to feature complete Pyrene tire chain service—repair, installation, sales. Ask your Pyrene jobber from whom you get your Pyrene chains and repair-parts, for the colorful window streamer that helps you let your customers know about the complete service you offer. Advise chain repairs now so they'll be ready when needed. Do your part in making fewer chains go farther.

### PYRENE CHAIN GUIDE

Your Pyrene jobber has a new chart for you. Ask for it. It shows your shop men how to install and conserve tire chains. Get genuine Pyrene Chains and Repair-Parts from your jobber.

**Pyrene Manufacturing Company**  
NEWARK 8 • NEW JERSEY  
ATLANTA • KANSAS CITY • CHICAGO • SAN FRANCISCO  
Affiliated with C-O-TWO FIRE EQUIPMENT COMPANY



Ruppert signed a contract that became effective on Jan. 1, 1912, and has sold the line at Tremont ever since. The first years were none too good, for business generally began to slacken off as the first World War approached. However, Ruppert clung to his carriage and blacksmith business throughout the period and prospered modestly. During the war car production was not banned as it has been during the present war, yet production was low and few new-car sales were possible. The repair business gained but Ruppert still leaned heavily upon the blacksmith and wheelwright shop during the war years. The only post-war plans he made was a resolution to continue to serve the community in any way his skill and experience permitted.

After the war it became evident that he could best do this by concentrating on the automobile business. He sold his blacksmithing and wheelwright shops and expanded his car sales and service facilities.

It was not all clear sailing even in the '20's, for the miners went on strike from time to time and, when they did, business in the coal fields stagnated. Nevertheless, Ruppert kept his confidence and worked harder than ever. It is difficult to discover from his earnings statements which years

(Continued on page 69)

## Makes Service Pay

(Continued from page 66)

were depression years and which were not. This is particularly true of the unprecedented and ruinous depression which began in 1929.

Instead of retrenching, as so many dealers did when car sales fell off, Ruppert put more effort into the phases of the business that were more promising. He advertised as much as ever and put more effort into selling. The result was that he made money throughout the dull years.

When war came again, Ruppert had the assistance of two sons-in-law. Franklin Horn was handling parts and service, while Ammon Rentschler looked after sales and the office detail. They agreed with Ruppert that they would do better to intensify their efforts along automotive lines rather than venture into fields about which they knew little. The soundness of their decision cannot be questioned.

Ruppert is now 77. He is as keenly interested in the automobile business today as he was in 1912. He gets to the office, across the street from his home, at 7 o'clock every morning. While supervising the present activities of the business, he lays plans for the post-war period. They are quite simple.

Briefly, they run like this:

The business has survived a succession of wars, depressions, and paralyzing strikes. In every case, its salvation has been service to the community. After the current war, Ruppert will continue to serve the community. It will need new cars, and he will sell them, as soon as they are made available. It will need service. He does not think the present high volume of service business will continue once new cars and trucks start rolling off the production lines, but he is in the service business to stay. He will modernize his shop and so be ready for whatever volume of service business he can obtain. The coming of a peaceful era is an old story.

## Reconversion in 60 Days

The Electric Auto-Lite Co., largest independent manufacturer of automotive electrical equipment, will be ready to serve the nation's automobile builders once the green light is flashed from Washington. This was revealed by Royce G. Martin, President, during a recent meeting of the board of directors.

Despite the fact that the company employees are turning out war material at a valuation of \$140,000,000 a year, Martin stated, reconversion problems will be relatively simple, as Auto-Lite has continued to manufacture throughout the war, in addition to many military products, along the same lines as in peacetime. He pointed out, however, that many of the Auto-Lite plants have been totally converted to war production and

reconversion in these plants will take longer than in others.

Martin estimated that 60 days at the outside would care for the overall reconversion of Auto-Lite's 22 plants from coast-to-coast.

## Assists Manager

It has been announced by Jack Davis, director of sales and advertising of the Ford Motor Co., that Clem Davis, sales manager of the Dearborn branch, has been appointed assistant manager of the Louisville, Ky., branch.

Clem Davis joined Ford April 10,

1919, going to the Highland Park plant as a toolmaker. He continued in that capacity until 1922 when he was assigned to the experimental engineering department at the Dearborn Laboratory. Following six years of experimental work Davis was placed in charge of instrument repair and maintenance at the Rouge plant.

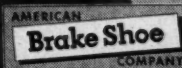
Early in 1932, he turned to sales and was employed in the Dearborn branch office. On July 21, 1933, he was made supervisor of commercial car and truck exhibits at Highland Park. Since that time he has held various branch posts.

# Kellogg-American



**WHISPER-QUIET OPERATION** is but one of many advantages of Kellogg-American compressors. This feature, like others, increases compressor life, saves repair and maintenance. It's another Kellogg-American *extra* that means *most air per dollar* from Kellogg-American compressors.

**Kellogg Division**  
**AMERICAN BRAKE SHOE COMPANY**  
Rochester 9, N. Y.



**AIR COMPRESSORS • PAINT SPRAY EQUIPMENT • CAR LIFTS • CAR WASHERS**



## Engine Noises

(Continued from page 25)

ing sound, which is often described as a "ping" as is usually encountered when the engine is laboring, accelerating rapidly or overheated.)

### Causes

1. Large carbon deposits in combustion chamber.
2. Ignition timed too early.
3. Faulty automatic distributor advance (weak springs).
4. Inoperative spark advance modifier.

5. Spark plugs:
  - A. Incorrect type of plug (using a plug which is too hot).
  - B. Porcelains or electrodes carbonized or burned.
6. Sharp metallic edges in combustion chamber.
7. Cylinder-head gasket projecting in combustion chamber.
8. Hot engine valves resulting from:
  - A. Incorrect width of valve seats.
  - B. Insufficient tappet clearance.
  - C. Use of wrong type of valve.
  - D. Thin-edged valves.

9. Excessive engine temperatures.
10. Poor grade of fuel.
11. Old or stale fuel.
12. Excessive lean carburetor mixture.
13. Inoperative automatic heat control valve. (Valve held in closed position).

## MISCELLANEOUS ENGINE NOISES

(Miscellaneous engine noises are sometimes very difficult to find, and it is impossible accurately to describe and suggest methods for locating all the noises which may occur. The following causes are those most frequently encountered.)

### Frequent Causes

1. Engine loose in frame.
2. Engine supports loose (rear bracket and front cross member).
3. Engine supports at front of cylinder block loose or broken.
4. Flywheel loose on crankshaft.
5. Crankshaft fan pulley loose on crankshaft.
6. Manifold heat control valve rattling.
7. Thin-walled manifold (roaring noise).
8. Foreign object in exhaust manifold or passages.
9. Loose exhaust pipe at manifold connections.
10. Interference of exhaust line with frame.
11. Exhaust to inlet manifold gaskets blown.
12. Engine striking dash.
13. Transmission rubbing floor boards.
14. Loose engine accessories such as generator, water pump, engine fan, horn, etc.
15. Excessive timing gear backlash (sharp rap occurs).

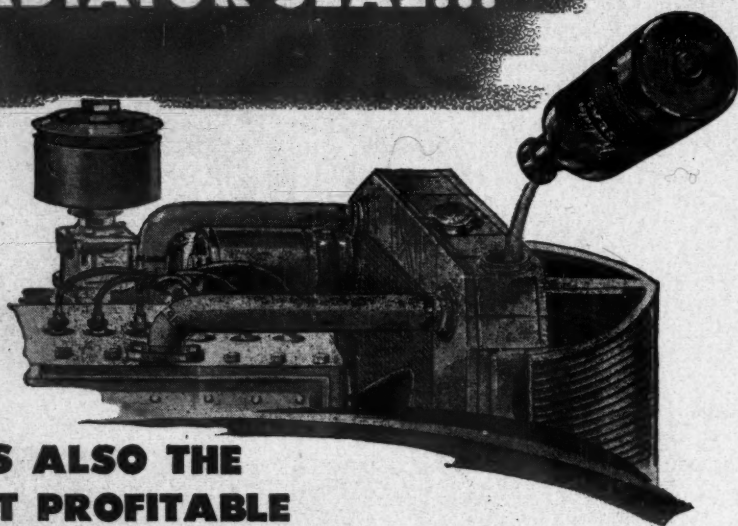
## OIL PUMP AND DISTRIBUTOR DRIVE NOISES

(Oil pump and distributor drive noises are usually encountered when the engine is idling.)

### Causes

1. Worn or damaged oil pump and distributor driven gear.
2. Worn or damaged camshaft drive gear.
3. Improper mesh of drive and driven gears.
4. Couplings loose on shaft.
5. Excessive clearance of shaft in oil-pump body or distributor-bracket bushings.
6. End play in distributor drive shaft.
7. End play in oil-pump drive shaft.
8. Oil pump not rigidly mounted.
9. Damaged or scuffed oil-pump gears.
10. Oil-pump hydraulic rap.

## THE MOST EFFECTIVE RADIATOR SEAL...



## ... IS ALSO THE MOST PROFITABLE

Only one radiator seal makes immediate, permanent repairs; requires no service labor; does not affect hoses or thermostat; leaves nothing in suspension; actually discourages rust and scale—and, still, returns a bigger cash profit! It is K & W Radiator Seal—with it, you can give better service and make more money!

## ASK YOUR JOBBER FOR THIS K&W Radiator SEAL

### "63" EXTRA PROFIT DEAL



A special offer to start you off with an extra profit—6 bottles of K & W Radiator SEAL and 3 cans of K & W Metallic SEAL—plus, an important opportunity for consistent profit on K & W Mechanical Method repairs—without any investment. Get full particulars from your K & W Jobber—today!

**KERKLING & COMPANY**  
BLOOMINGTON, INDIANA

ANY DEALER, GARAGE, OR SERVICE STATION CAN  
HANDLE ANY CRACKED HEAD OR BLOCK REPAIR!

**Save these, Honey. They'll Buy Nuggets  
for Me When They're Made Again!**



**NUGGETS Will Save Us Money and Help Me Earn More!**



"Gee, honey, a good mechanic like me should use the best tools—and they're Nugget Socket Wrenches! And what's so wonderful about them? Well, they cost less to begin with and then save on replacement cost for ever after. I'll be able to show up the other boys at the shop who still work with heavy, clumsy wrenches—and that means more pay for me."

Right you are, Joe! One set of NUGGETS—with all sockets and handles in *one drive*—the exclusive 7/16" drive—does all jobs which otherwise require wrenches in both 3/8" and 1/2" drives. And get this:—One set of NUGGETS give you the same full range of socket sizes at about 42% less cost because you don't have to pay for two sets of handles and duplicate socket sizes. Tell her this and she'll help you save extra bonds for your NUGGETS. You'll be able to get them from your Blackhawk Jobber just as soon as famous Hexite Steel is available again.

A Product of **BLACKHAWK MFG. COMPANY**  
Dept. W6104, Milwaukee 1, Wisconsin



**7/16" DRIVE 3/8" DRIVE 1/2" DRIVE**  
**WRENCHES WRENCHES WRENCHES**

**Don't Buy Two Sets When  
One Will Do the Job!**

**BLACKHAWK**

**NUGGET**

**SOCKET  
WRENCHES**

**THE WRENCHES THAT SMASHED TRADITION**

OCTOBER, 1944

When writing to advertisers please mention Motor Age

71



## War Output in Automotive Plants To Be Cut in Half When Nazis Quit

The operating divisions of WPB are well along in their plans for putting into effect its policy of abolishing almost all controls over materials when Germany falls.

Acting WPB Chairman J. A. Krug, in announcing the plan, said there will be a reduction of about 40 per cent in war production within three months after the fall of Germany which will free over 4,000,000 workers

for civilian production. WPB estimates that the cutback in the automotive industry and its component manufacturers will be higher than the over-all figure, or close to 50 per cent. Krug also said that there will be plenty of steel, copper and aluminum available for all manufacturers who are in a position to manufacture civilian goods.

According to WPB, the only con-

trols that will be maintained after X-Day are those that will be absolutely necessary to assure the defeat of Japan. There will be only one preference rating in addition to the present emergency rating. This will be reserved exclusively for military programs. All other production will be unrated. Manufacturers will be permitted to accept unrated orders but they will be obliged to fill rated military orders ahead of all other business.

A few allocation orders for materials that remain tight, such as tin, lumber, textiles, and certain chemicals, will be continued. Allocation of copper and steel under CMP will be continued only for the quarter in which Germany falls.

Meanwhile, the WPB Automotive Division has been actively engaged in its plans for self-liquidation. It has been revealed that the Division Director, Col. John H. Middlekamp, has recommended that all limitation orders under his jurisdiction be scrapped along with the orders that are to go. This will mean that the L-1, L-2, L-3 series of orders, restricting passenger car and motor truck production, will be abolished. In addition the following orders will also be dropped: L-158, Automotive Replacement Parts; L-180, Replacement Storage Batteries; L-270, Automotive Maintenance Equipment; L-314, Lubrication Equipment; and L-201, Automotive Tire Chains, Tractor Tire Chains, and Chain Parts.

A nucleus organization will be maintained in all WPB operating divisions to iron out any problems on which industry may require help and to take care of any possible increases in military procurement.

Until Germany falls the "spot authorization" plan will continue to operate, but will be dropped at that time. At the time of this writing, no authorizations, under this plan, have been granted to producers of automotive equipment. Special allotments of material have been set aside to be used by manufacturers allowed to produce under "spot authorization" procedures.

Colonel Middlekamp, denying all reports that he was to resign in the near future, told MOTOR AGE that he will stay until the program is finished. Industry advisory and labor advisory committees will continue to function after the close of the European war.

WPB estimates that with almost a 50 per cent cut in war production and the lifting of the bans on civilian production the industry should be able to turn out about 2,000,000 passenger automobiles in the first year after the war and as many trucks, for civilian use, as were produced in the peak peacetime year, or about 890,000.

At present, the truck program continues in high gear. The decline in

(Continued on page 76)

### The Day of Miracles is Not Over!



# The RBC

## ROLLER BEARING DISTRIBUTOR

is

### Everywhere at Once!

No matter where you are located, R B C ROLLER BEARINGS are available or can be obtained on reasonable notice. The R B C Distributor's service is available to you in large cities or small towns throughout the length and breadth of this land.

In large cities there are frequently several R B C Distributors who supply garages, fleet accounts, car dealers and small industrial plants by means of R B C's complete catalog coverage of all popular applications.

Small town Distributors, in addition to all this, cover your needs in relation to farm machinery, earth-moving equipment, etc.

The R B C Distributor has made a tremendous effort to serve you during these last two or three difficult years. He is worthy of your continued patronage.

**ROLLER AND NEEDLE BEARINGS FOR AUTOMOTIVE,  
AIRCRAFT AND INDUSTRIAL USE**

**ROLLER BEARING COMPANY of AMERICA**  
TRENTON NEW JERSEY

F. A. SEIBERLING ANNOUNCED

# The Declaration to Independents?

**M**ANY years before the world realized that the rise of dictatorship threatened the very existence of *independence* everywhere, F. A. Seiberling dedicated the company bearing his name to the principle of Independent Enterprise that made this country great. To a skeptical rubber industry, demoralized by every form of business pirating, he announced a philosophy of business based on honesty and fair play.

The "smart" rubber boys laughed at its naive, homespun simplicity. They laughed especially loud at these three cardinal points of that now famous *Seiberling Declaration to Independents*: (1) That Seiberling would never compete with its own dealers; (2) That Seiberling would protect dealer's territories; (3) And that relationships between Seiberling and Seiberling Dealers would be based on mutual respect and confidence.

They said such idealism couldn't last . . . couldn't stand the test of depressions and cutthroat competition . . . that the independent dealer was through! That was 23 years ago!

Today, with our nation at war against oppression, all Americans realize the precious worth of the principles of Independence and Justice championed by Seiberling so long ago.



## THE SEIBERLING DECLARATION TO INDEPENDENTS HAS NEVER BEEN VIOLATED... and never will be!

My father never broke faith with Seiberling Dealers. Nor have I, during my time as active head of the company. And in the future—as in the past—the *sound and forward looking Seiberling Declaration to Independents* will **CONTINUE** to blue-print a way of doing business that has made so many dealers who own a *Seiberling Franchise* the tire business leaders in their communities.

*J. P. Seiberling*



## War Output to Be Cut

(Continued from page 72)

production early in the year was largely made up during the third quarter, due to more manpower being made available in the foundries. Production will continue on an upward trend but the total civilian output still may not be realized. However, the loss will not be more than from 4 to 8 per cent. Third quarter output was greater than any previous wartime quarter.

With remaining war production

scattered throughout the country WPB believes that it will be no longer necessary to maintain production quotas on parts and all other types of automotive equipment.

Official Washington is now breathing easier over the huge surpluses of parts that are supposed to exist. It is maintained that all the inferior parts have largely disappeared and that military excesses will be absorbed in maintenance of vehicles, whether they are sold as surplus or remain a part of a post-war military force. Not many spare engines are expected to be lying around, at least not new en-

gines. There may be a considerable quantity of used spare engines.

WPB does not expect any radical changes in design of any of the products of the automotive industry, although an improved line of products is expected because of improvements adopted in producing war goods.

Manpower controls are also going to be slashed on X-Day. War Manpower Commissioner Paul V. McNutt has said that the required hiring of male labor through the USES and the fixing of employment ceilings will cease. The 48-hour week will no longer be mandatory and will be continued only in war plants.

All WPB predictions are based on the idea that reconversion will come easy and not accompanied by great confusion.

Pricing of new goods also creates a problem. OPA Chief Chester Bowles has said that an attempt will be made to hold all prices of newly manufactured products at March, 1942 levels, but that consideration will be given to increased material and labor costs since 1941.

The heads of automobile companies met with OPA Administrator Bowles at his invitation on Sept. 20 to discuss policies to be followed in establishing new passenger car and truck prices.

Automobile men said that, while increased costs will undoubtedly push new vehicle prices up, because of the confusion in the minds of steel producers and other suppliers about post-war prices, they had not been able to estimate post-war costs.

Some suppliers are quoting prices 10 to 15 per cent above OPA ceilings for post-war delivery; others say they cannot quote prices because they do not know what OPA is going to do.

OPA officials say that it is probable that prices will be established on an individual company basis because the financial position of each manufacturer is different.—Gene Hardy.

## Job Division Created

Creation of a new division to provide a job for every qualified Firestone veteran returning from the armed forces was announced recently by The Firestone Tire & Rubber Co.

The Firestone Veterans Reemployment Division already is handling cases of former employees released from the service. In this program, everything possible is being done to make readjustment to their civilian occupations as easy as possible for employees returning from service. Members of the reemployment division interview each veteran and study his record and experience since he entered the armed forces, with a view to returning him to his former job or to another job for which he has become better suited.



**CONCENTRATE ON ONE  
and win!**

P & D PRODUCTS ARE DOING  
THEIR BIT WITH OUR ARMED  
FORCES IN VARIOUS  
THEATRES OF WAR

The way to win is to concentrate. And America's leading mechanics know that the way to win in their business has been to concentrate on one . . . the complete quality P & D line . . . and get all the advantages.

The experience of thousands of truck and bus operators, and service station or garage owners proves that P & D . . . the complete quality line of ignition replacement parts for trucks, buses and passenger cars . . . means profitable operation. With P & D products the three benefits of concentration are always there.

### 3 P & D BENEFITS

- 1 Minimum inventory, because one complete line.
- 2 The best is always at hand, because P & D make only one quality . . . the finest.
- 3 Customer satisfaction because good work plus P & D parts means peak performance.



YOU CANNOT PURCHASE ANY FINER QUALITY

3575

**P & D MANUFACTURING COMPANY, Inc.**

LONG ISLAND CITY, NEW YORK  
STARTING · LIGHTING · IGNITION  
REPLACEMENT PARTS

P & D MANUFACTURES ONE COMPLETE QUALITY LINE. ONLY THE FINEST MATERIALS AND WORKMANSHIP OBTAINABLE ARE EMPLOYED

# AT NASH?

In the last four years, few companies have traveled so far, so fast as Nash.

Long before America's entry in the war, Nash had won an enviable reputation for progress and aggressiveness in an industry whose entire business philosophy is based on progress.

Before the war, Nash progress culminated in the introduction of a new kind of car in the lowest-priced field . . . a car that was "years ahead" of the industry in its tremendous economy of operation . . . the Nash "600." Tomorrow, when war ends . . . Nash will still be "years ahead."

Yet, since Pearl Harbor the tempo of Nash progress has been increased many times . . . with vast new plant capacity, new engineering advances and new methods of precision manufacture. That Nash is turning out the intricate, giant, 2,000 horsepower Pratt & Whitney two-staged supercharged engines that power the Navy's Corsair and Hellcat fighting planes in ever-increasing numbers . . . that Nash is building Sikorsky helicopters for the Army Air Forces . . . is evidence of the tremendous progress Nash is making.

When war ends, that progress will not stop; it will be *accelerated even more.*

For it is our purpose, when peace comes, to go back—full force—and fast—to making Nash automobiles. They will be the finest Nash cars we have ever made, for into them will be built every new ability, every new facility, every new skill we have acquired under the driving urgency of production for war.

Then Nash will offer a new and finer Nash "600" in the lowest-priced field . . . a new and finer Ambassador Six in the medium-priced field . . . and with them a new and greater franchise opportunity than Nash dealers have ever known!

That's what's going on at Nash!





## Cooler Tire Designed

A new tread design for truck tires of synthetic rubber which retards the growth of tread cracks and is said to reduce the running temperatures of the tires by as much as 50 degrees was announced last month by The Goodyear Tire & Rubber Co. Goodyear engineers described the new tread design as "revolutionary." The new design is serving as a running mate to the company's standard All-Weather tread.

Since natural rubber imports were curtailed by war, rubber experts throughout the country have been

seeking means for overcoming synthetic rubber's tendencies to overheat and crack when used in truck tires. The Goodyear engineers asserted that the new tread design brings synthetic rubber nearer than ever to the performance goal of prewar truck tires of natural rubber.

In Goodyear's new "Hi-Miler S Rib" tread, as it has been designated, retarding of crack growth is accomplished by altering the conventional, continuous tread ribs to include terminals at approximately every half inch in the crevice between the ribs. It is in these crevices that damaging breaks or cracks usually originate.



Company officials study new cool-running synthetic tire.

## Engineered to Help You Keep Vital CARS and TRUCKS on the Job All Winter

Whenever the thermometer reads below 45° that's your cue for a plus profit on every car and truck you service. Put AMALIE SUB-ZERO in the crankcase and you give your customers easy starting and sure protection against sudden temperature drops... *plus* protection against temperature RISES, too! AMALIE SUB-ZERO pours at temperatures as low as 25° below, depending on S.A.E. grade. Yet it gives complete lubrication when the mercury climbs. Cold weather builds your market for AMALIE SUB-ZERO... and for AMALIE Winter Grade Lubricants, from spring shackles to differential.



Get your free copy of "HOW TO MAKE MONEY ON A FALLING THERMOMETER." It's chock full of practical profit pointers on winter lubrication. Ask your AMALIE Distributor or write Dept. M-5.

### AMALIE DIVISION

L. SONNEBORN SONS, INC.  
88 Lexington Ave., New York 16, N. Y.  
Southwestern Distributors:  
Sonneborn Bros., Dallas, Texas.

Now More Than Ever —

**It's AMALIE First...  
Because AMALIE Lasts**

REFINERIES: PETROLIA, PA., AND FRANKLIN, PA. • PLANT: NUTLEY, N. J.



Reduction of the heat is accomplished by a completely ventilated shoulder on each tire instead of the conventional unbroken rib-type shoulder. Laboratory tests have shown that the new type of shoulder will reduce maximum running temperatures in truck tires by as much as 50 degrees under certain circumstances.

### Division Offices Set Up

Completing National Carbon Co.'s new sales set-up under which all company products are to be handled nationally from seven divisional offices, new headquarters will be opened on Oct. 1 in New York, Pittsburgh, and Chicago. Similar offices were established a few months ago at Atlanta, Dallas, Kansas City, and San Francisco.

F. W. Berdan will manage the New York Division. The assistant division managers will be G. A. Blackburn and A. B. Oatman.

J. A. Hammond will manage the Pittsburgh Division. F. S. Haggerson and W. E. Herr have been named assistant managers.

Heading the Chicago Division will be H. A. Stewart. Assistant division managers will be C. H. Christensen and W. L. Julian.

### Becomes Board Chairman

Clarence M. Brown, Philadelphia attorney, has been recalled as chairman of the Pittsburgh Plate Glass Co. to fill the post left vacant August 13 by the sudden death of H. S. Wherrett.

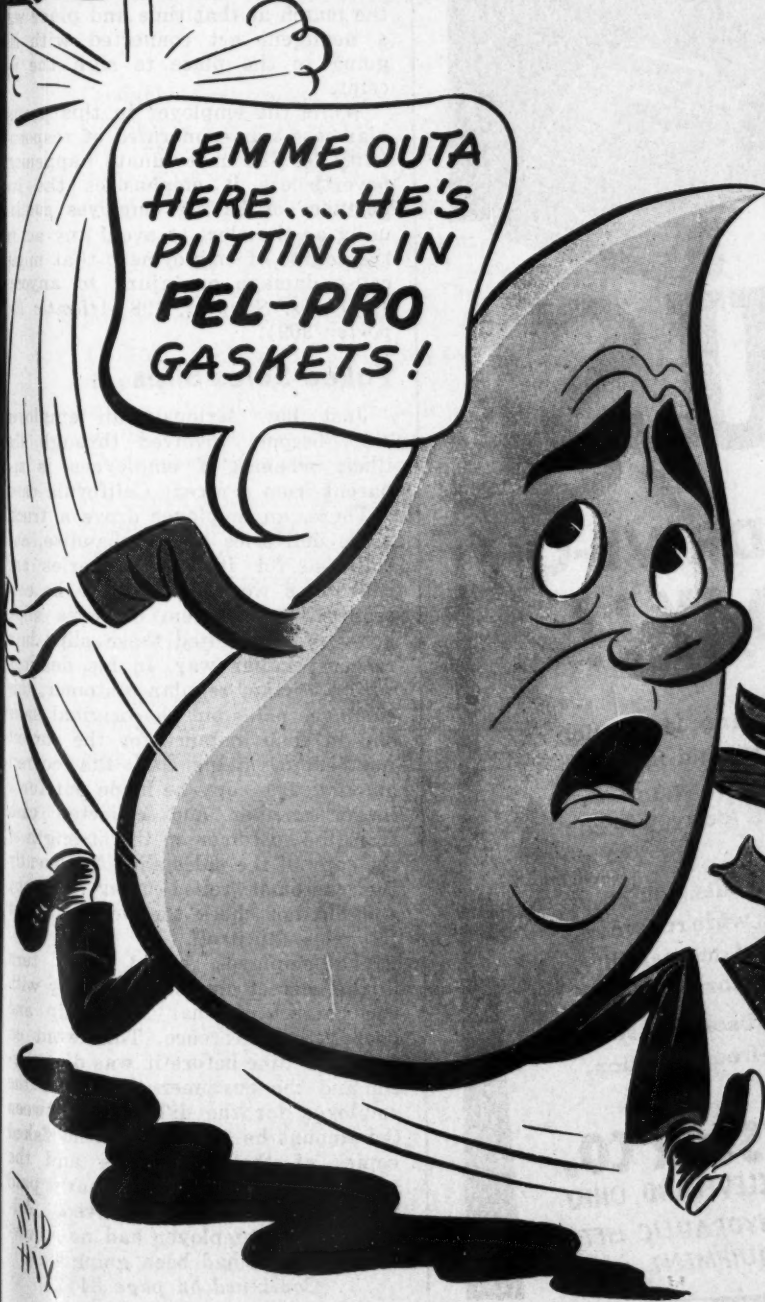
Leland Hazard, general counsel, was elected vice president, H. B. Higgins, president, was named chairman of the executive committee and H. B. Brown, secretary, was elected to the board.

Higgins, in announcing the elections, reported the company is expecting little difficulty in reconverting to peacetime work after the war ends. In addition to enlarging the output of many old-line products, he said his concern will add several new ones which have been developed during the search for materials to replace those cut off by the war.

# Goodbye LITTLE DRIP!



LEMME OUTA  
HERE....HE'S  
PUTTING IN  
**FEL-PRO**  
GASKETS!



It's Goodbye "Little Drip" when you install those time-proven, quality-tested, Fel-Pro Engine Gaskets... Metallic Pump Packings... and any of the many other Fel-Pro Sealing Materials.

*It pays to see your Fel-Pro Jobber First!* For, while our Military and War Industry requirements are taking huge quantities of Fel-Pro materials, every effort is being made to keep our Jobbers supplied with the Gaskets YOU NEED TO KEEP AMERICA'S TRANSPORTATION ROLLING!

So to Save Time... and make sure you get the right gaskets for the job... see your Fel-Pro Jobber First! Felt Products Mfg. Co., 1521 Carroll Ave., Chicago 7, Illinois.





# Legally Speaking

A lawyer's interpretation of federal and local court decisions of interest to repairmen, presented each month

By C. R. ROSENBERG, JR.

## Employer's Responsibility

Just how unexpectedly an employer may be subjected to a lawsuit through some innocent but possible careless act of an employee is startlingly illustrated by a recent case. A driver of a tank truck was delivering fuel

oil from the truck into an underground tank of a customer. The oil spurted and some of it got on the driver's clothing.

Shortly thereafter an employee of the customer came out of the building to sign a receipt for the oil. When he got about 10 ft. away from the

truck driver, he struck a match to light a cigaret. The flame ignited the gasoline fumes and the oil truck driver was seriously burned. The truck driver eventually sued the employee of the man who struck the match.

The legal question involved was whether the striking of the match by the employee who was about to sign the receipt was an act done in the course of his employment. The majority of the judges decided that the lighting of the cigaret had nothing to do with the signing of the receipt, although the signing of the receipt itself was something to be done in the course of his employment. Two of the judges, however, dissented from this, saying that, while smoking a cigaret was not in the course of the man's employment, nevertheless the very act of his going to the location where the fumes were for the purpose of signing the receipt, was in the course of his employment and that his striking the match at that time and place was a negligent act connected with his going to the place to sign the receipt.

While the employer in this particular case was exonerated of responsibility for the unfortunate happening, nevertheless it emphasizes the importance of having employees continually on the alert to avoid any act in the course of employment that might cause damage or injury to anyone. (*Herr vs. Simplex*, 198 *Atlantic Reporter* 309).

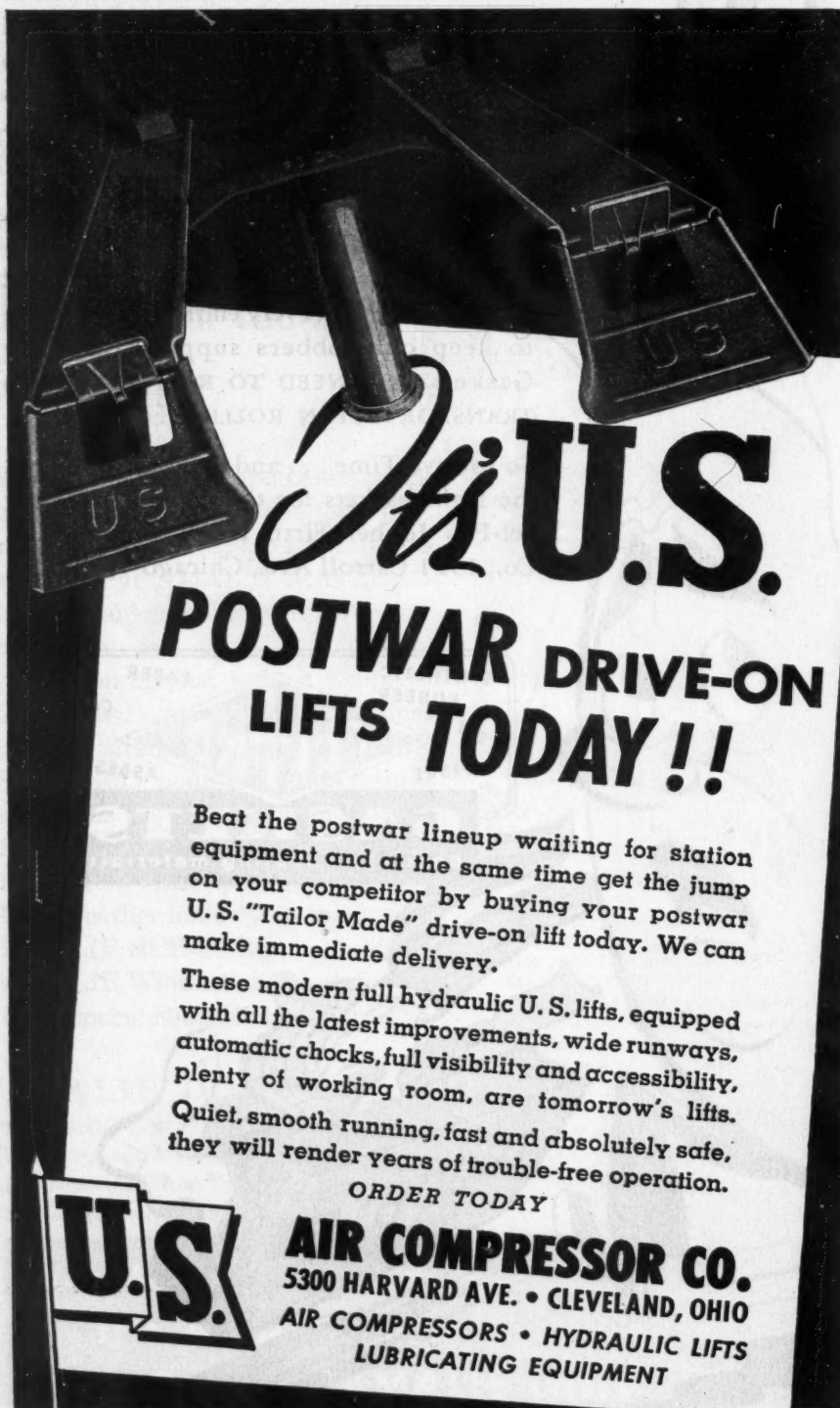
## Faked Sales Slips

Just how seriously an employer may become involved through the illicit schemes of employees is apparent from a recent California case.

There, an employee drove a truck, made deliveries of merchandise, and collected for it. His deliveries and collections were supposed to be controlled by a system of sales slips, but he manipulated these slips in a rather peculiar way. In his dealings with a certain regular customer, this employee made out the original sales slip in each instance for the correct number of items and the correct amount. The copy he made out for a larger amount and collected cash from the customer on the strength of the copy of the sales slip. Apparently the customer relied upon the copy and did not check the items against the sales slip itself.

The employee would then turn in the correct amount of money with the correct original sales slip and pocket the difference. This went on for some time before it was discovered, and the customer then sued the employee for the difference between the amount he had paid on the faked copies of the sales slips and the amount which he should have paid for the merchandise received. Admittedly, the employer had no knowledge of what had been going on.

(Continued on page 84)



**U.S.**

**POSTWAR DRIVE-ON LIFTS TODAY!!**

Beat the postwar lineup waiting for station equipment and at the same time get the jump on your competitor by buying your postwar U. S. "Tailor Made" drive-on lift today. We can make immediate delivery.

These modern full hydraulic U. S. lifts, equipped with all the latest improvements, wide runways, automatic chocks, full visibility and accessibility, plenty of working room, are tomorrow's lifts. Quiet, smooth running, fast and absolutely safe, they will render years of trouble-free operation.

**ORDER TODAY**

**U.S. AIR COMPRESSOR CO.**  
5300 HARVARD AVE. • CLEVELAND, OHIO  
AIR COMPRESSORS • HYDRAULIC LIFTS  
LUBRICATING EQUIPMENT

**WHY FLEETOWNERS ARE  
EQUIPPING THOUSANDS OF  
VEHICLES WITH**

**Hydrovac**

**POWER BRAKING BY**

**Bendix  
now!**

Farsighted fleet owners know that it is smart wartime strategy to install Hydrovac NOW. Used to replace obsolete or undersized vacuum power braking equipment, or on new vehicles, it is proving the safest, most efficient power braking unit for heavy wartime hauling.

This outstandingly simple and efficient unit is designed and built by Bendix—brake headquarters for over thirty years—and proved on the "world's toughest proving ground"—the warfronts of the entire world.

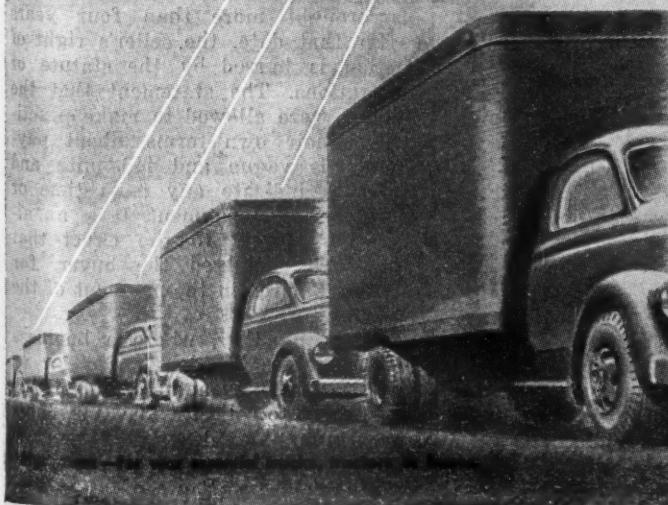
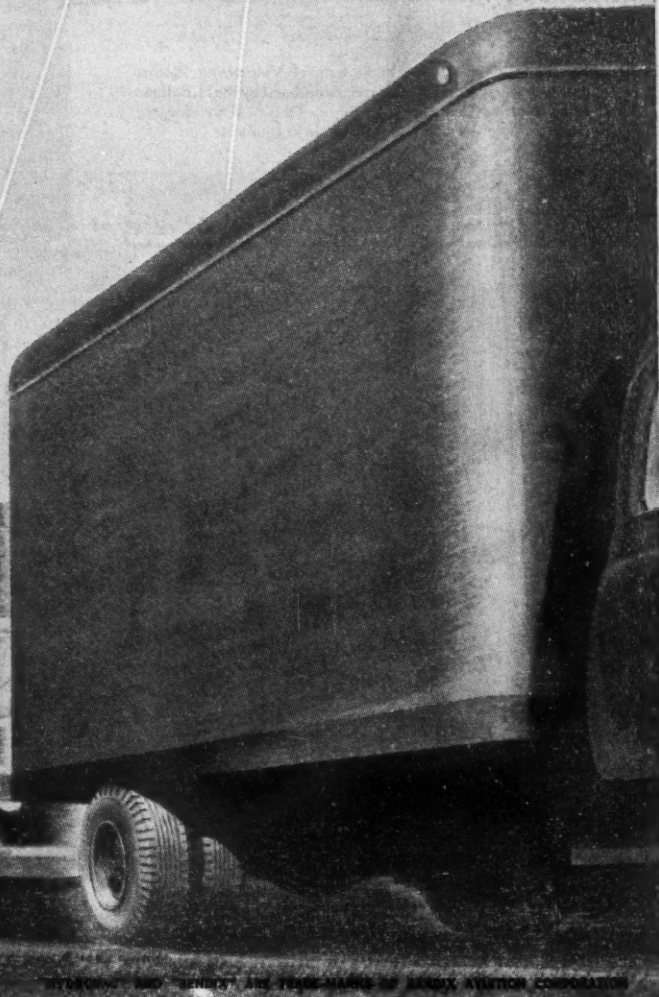
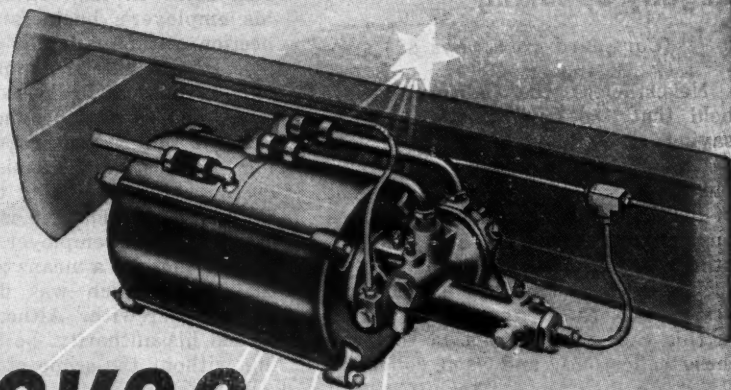
The Hydrovac braking unit is a triumph of engineering simplicity. It is one compact unit completely enclosed against dirt and water. It is readily installed anywhere on the chassis, with only three tubing connections. There are no external levers or links.

Because of this ease of installation, there is no need for rolling equipment to be laid up for extended periods. Service requirements are minimized—no adjustments are required at installation or later in service.

If you own or service hauling equipment, now is the time to look into Hydrovac power braking. It is the answer to today's braking problems, and will remain the outstanding development for years to come. See your Bendix B-K dealer or write the factory direct.

**BENDIX PRODUCTS DIVISION OF BENDIX AVIATION CORPORATION**

**SOUTH BEND 20, INDIANA**





## Legally Speaking

(Continued from page 82)

Nevertheless the California court held that the employer was liable, saying:

"A principal is liable to third parties not only for the negligence of his agent in the transaction of the business but also for the frauds or other wrongful acts committed by such agent in and as part of the transaction in such business. The driver in this case was authorized to make these collections, and each collection

was made in the regular course of his employer's business and in connection with an actual delivery and sale. He was able to commit the frauds only because of his possession of the truck and sales slips and because of the fact that he was regularly carrying on this part of his employer's business. In committing these wrongful acts he did not step aside from the business of his employer, but he used that business as a means to accomplish the fraud which was directly connected therewith. Although he exceeded his authority, he was not acting without the scope of his employ-

ment." The employer was thus held liable by the court for the amount out of which the customer had been defrauded.

Which suggests the reasons for the bonding of employees handling money. (*Grigsby vs. Hagler*, 78 *Pacific Reporter*, second series, 444).

## Forfeited Account

A repairman may lose the right to sue for an unpaid account if he defers legal action beyond the time limit set by the law of the particular state. This happened under rather unusual circumstances in a recent Georgia case.

Explaining its refusal to allow a business man to bring suit on an unpaid account, the court said:

"The suit is to recover from the buyers the unpaid purchase price of certain goods. It appears from the invoices that some of the goods were sold on terms that were cash and some were sold on 10, 30 and 60 days' time. According to these terms in the invoices the dates had been past due more than four years before the suit was started, and the suit is therefore barred by the statute of limitations.

"It is alleged that the merchandise was sold to the defendant on time or credit and they were allowed to make practically their own terms about the payments, and they were seldom paid for several months after they were incurred."

Does the leniency of a business man in allowing a debtor to pay pretty much as he pleases benefit the unpaid seller from a legal point of view? Apparently not, and his leniency even operates against him in the law if he permits the debtor to "stall" payment beyond the legal time limit for bringing suit.

Commenting on this feature of the case, the court continued:

"The payments became due on the dates stated in the contract and as shown in the invoices. Since the suit is brought more than four years after that date, the seller's right of action is barred by the statute of limitations. The statement that the buyers were allowed to make practically their own terms about payments is vague and indefinite and fails to indicate any fixed time or agreement for payment. It is an allegation merely to the effect that the seller indulged the buyer for several months in the payment of the account."

Indicating that, where a business man indulges his debtor too far or too long, he may actually forfeit his legal right to collect. The time limit for bringing suit depends on the law of the particular state. (*Robinson vs. Jackson*, 195 *South Eastern Reporter*, 877).

## CAMELS in the Spotlight

Today in use in all parts of the world, by the army and civilians, tomorrow even more widely used because of its service in the conservation of vital tubes today, the Camel line of repair patches and vulcanizers is complete. Camels are in the Spotlight . . . a complete line ready to serve you and your dealers.

Saf-T-ply Rubber is used in all Camel Vulcanizing Patches and each patch is designed, perfected and sold by the H.B. Egan Manufacturing Company, Muskogee, Okla. Write for the name and address of the representative in your state.

## CAMEL Products



Canadian inquiries should be addressed to George M. Watson Co., Ltd., 295 King Street, East, Toronto 2, Canada, the Canadian national distributor of Camel Patches.

**T**HESE are cylinders. These are beginnings—the start of a mightier machine than even war built. For it was the American Machine of Industry that built the American Machine of War—and its greatest job will be tomorrow: building a new world of Peace and Prosperity. It will be the most gigantic task man ever faced and it is as important in its details as in its conception.

The four plants of The Weatherhead Company have produced industrial parts such as these at the rate of millions every week. When Peace is restored we

will continue to make cylinders—and scores of other industrial necessities—as our part in the rebuilding of tomorrow's great peacetime world.

Look Ahead with



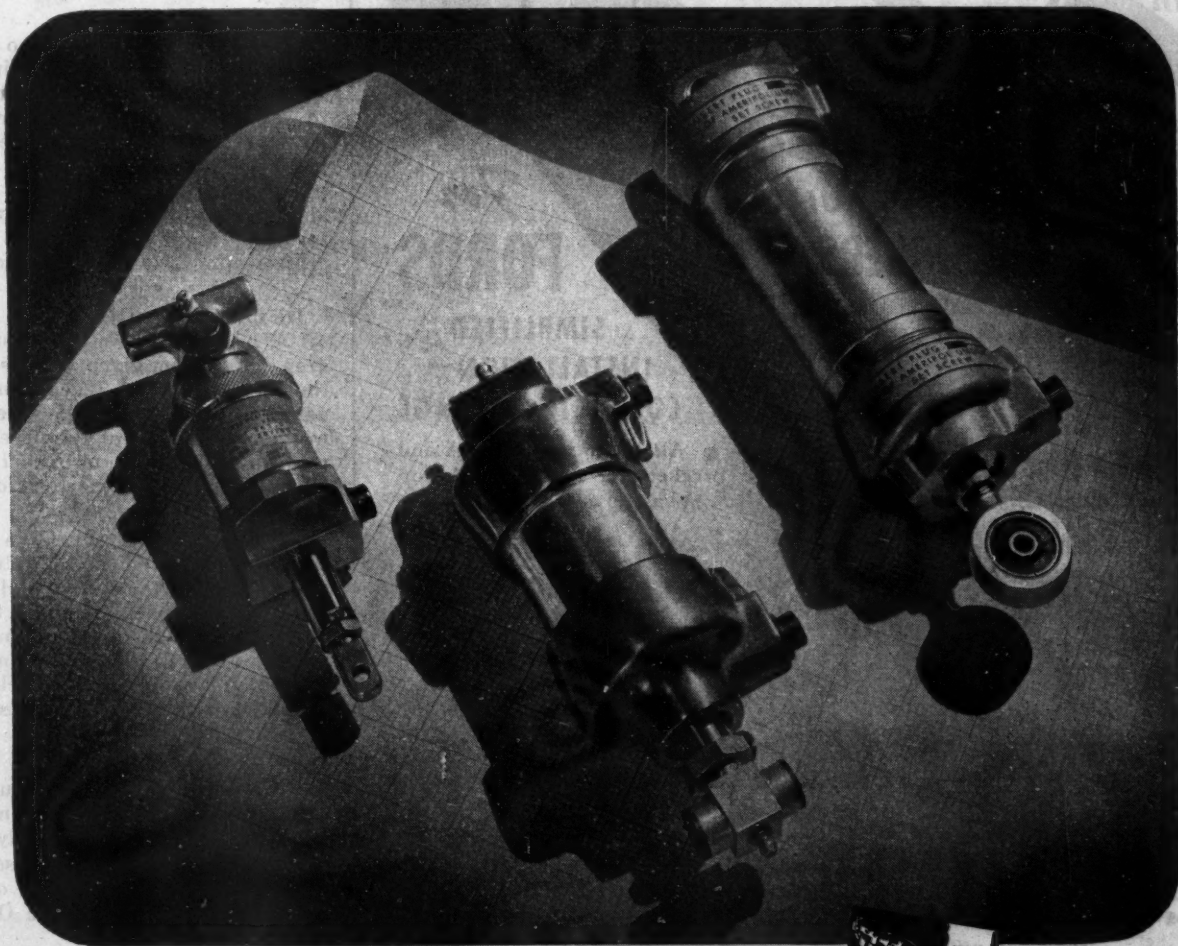
## Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO

*Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries*

Plants: Cleveland, Columbia City, Ind., Los Angeles  
Canada—St. Thomas, Ontario

# Beginnings OF TOMORROW'S WORLD!



**FREE:** Write on company letterhead for "Seeds of Industry"—a history of The Weatherhead Company, its facilities and products.





## Tire Shortage

(Continued from page 40)

remainder of the year has been set at 96,832, or roughly half of the number needed to supply essential needs.

Tires 7.50 x 20 and smaller are going to be scarcer during the last quarter. The needs of essential operators have been set at 345,272 monthly, but only 251,052 tires monthly will be made available.

The Army, whose growing requirements are said to be responsible for the acuteness of the civilian tire supply, has alleviated the situation to

a trifling extent by releasing 70,000 tires as surplus. Of these 56,000 are new and used small-size truck tires, which are to be sold back to tire manufacturers for civilian distribution. The remainder goes to government agencies and Lend-Lease.

Actual manufacture of big truck tires, according to the last report of Col. Bradley Dewey, director of the disbanded Office of Rubber Director, improved 10 per cent during August. Production for the third quarter, he said, should be about 12 per cent above the July 1 forecast.

Administration of rubber affairs is now being handled by the Rubber

Bureau of the WPB. James F. Clark, who was assistant deputy director of the Office of Rubber Director from October, 1943, until it was disbanded, is the director.

A consulting committee has been set up to advise the new bureau. The committee is headed by Col. Dewey, with L. D. Tompkins, Dr. E. R. Gilliland, E. B. Babcock, and Dr. C. C. Monrad, as members.

## Recent Rulings

**TIRE CHAIN.** Limitation Order L-201 has been amended to permit any person who wants to use more metal for tire chains than the quota fixed by the order to apply to the WPB for permission to do so.

**A COUPONS.** New basic-ration coupons, issued to motorists outside the East Coast area, are printed on safety paper and are numbered serially. Each coupon is good for 4 gal.

**R COUPONS.** Since Sept. 22, all filling stations have been permitted to accept off-highway R coupons. In the period between April 1 and Sept. 22, only certain authorized stations were permitted to accept them.

**TIRES.** Tire dealers who sell to consumers are now required by Amendment 86 to Ration Order 1A to sell any new tire in their inventory to any person who presents a valid tire rationing certificate and the purchase price of the tire. Dealers also are required to post daily inventories of their stock of tires with a cross-section size of 8.25 or larger.

**DETACHED COUPONS.** Holders of A books outside the East Coast area have been given permission by the OPA to use A-12 coupons when detached from the book. The ruling was made because of the necessity of returning the book to ration boards in order to obtain new rations.

**ZINC.** Restrictions on the use of zinc and zinc products in automotive trucks, tractors, trailers and Diesel engines have been modified through an amendment to Conservation Order M-11-b, the WPB has announced. Manufacturers of such vehicles may use the metal if there is no restriction in any other WPB order.

**NEW CARS.** The October quota for new passenger cars is the same as it was for September, namely, 3000 vehicles, with a national reserve of 600. The supply of new cars on hand is now less than 20,000, the OPA reports.

**TRUCK TIRES.** Limited numbers of truck tires may now be shipped by factories to dealers without ration certificates, when the factory has on

(Continued on page 88)

# Get in on your

# POSTWAR PROFITS NOW!

with

## Gabriel

**AEROTYPE HYDRAULIC  
SHOCK ABSORBERS**

**For  
FORDS**

**SIMPLIFIED  
INSTALLATION—  
COMPLETE PACKAGE**

● Your big chance to make money today is in the shock absorber replacement business . . . with Gabriels, of course, the top name in automotive shock absorbers for over 40 years.

**FOR ALL POPULAR CARS**  
Plymouth, Dodge, Chrysler, DeSoto, Pontiac, Packard, Nash, Hudson, Willys and others . . . perfect engineering, non-leaking, sealed-in-steel construction.

● All mountings, fittings and brackets for quick installation . . . opens up a wide market with




**SPECIAL OPPORTUNITY FOR JOBBERS**  
If there is no Gabriel representative in your territory, write or wire at once for our attractive jobber's proposition.

big demand for Ford Models 1939 to 1942 inclusive. Write today for complete information and prices.

**THE Gabriel COMPANY**  
CLEVELAND 14 OHIO



**THE SQUEAKING WHEEL GETS THE GREASE**



## OUT OF SIGHT, BUT NOT OUT OF MIND

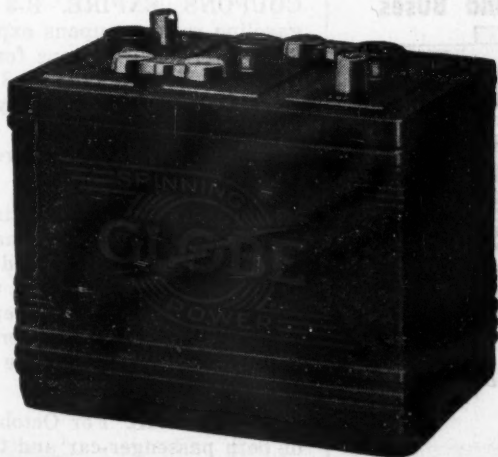
Unlike the squeaking wheel which cries for help, the battery under the hood, the floorboards, or the seat makes no outcry. Not until it goes dead some morning does it make known its need of a recharge.

That's why it's the live wire filling-station operator who prevents Battery Blackout by constantly keeping in mind the ordinary care

that batteries require, especially in these days of restricted driving, low mileage, frequent starting, and poor gasoline.

Regular attention keeps batteries and cars going . . . builds good will for the days when driving will again be unlimited. And, it lengthens battery life . . . saves precious materials for war.

When batteries must be replaced, install Globe Spinning Power—the battery that's especially built for wartime replacement service.



**Globe-Union Inc., Milwaukee 1, Wis.**

ATLANTA • BOSTON • CINCINNATI • DALLAS  
KANSAS CITY • LOS ANGELES • MEMPHIS  
MINNEAPOLIS • PHILADELPHIA • SEATTLE



# GLOBE

*Spinning Power*  
**BATTERIES**



## MEWA Schedules Meeting For Feb. 26-28 at Chicago

Motor and Equipment Wholesalers Association has announced that it will hold its annual meeting on Feb. 26, 27 and 28, 1945, at the Stevens Hotel, Chicago, to take the place of the national convention previously scheduled in November of this year. That convention, it is stated, was deferred in response to request from the Office of Defense Transportation that "all convention-holding organizations" cancel any further meetings scheduled in 1944 that were not "definitely and urgently

war-connected." Also to conform with the greatly predominant opinion of wholesalers and manufacturers, as expressed.

In view of prospects for early ending of the war in Europe, says the association, a convention in the Winter or early Spring of 1945 would be most advantageous for all concerned. The statement continues: "It is apparent that conditions are shaping up so as to make the meeting in the latter part of February of unusual value to automotive wholesalers and their suppliers. Conference booths will be provided to facilitate maximum contacts

under best conditions between manufacturers and wholesalers. Further details will be given in due course.

## Plans Battery Lab

The National Battery Co., with WPB approval, will construct and equip a new testing laboratory for its Gould Commercial Division plant at Depew, N. Y. The laboratory will fill the increasing need for research and product development in connection with Gould-manufactured U. S. Army and Navy batteries.

A one-story brick building is planned which will have a 110 ft. frontage adjacent to the present office building at 35 Neoga St. With a 90-ft. depth, the building will have approximately 10,000 sq. ft. of floor space. It will be furnished with the latest type equipment for complete testing and analysis of batteries.

## Recent Rulings

(Continued from page 86)

hand no orders covered by valid certificate in the same size group, the two groups being 7.50 and smaller and 8.25 and larger. The dealer may not accept more than 50 tires in either group from any one manufacturer and not more than 100 tires in either group from all manufacturers without surrendering certificates.

\* \* \*

**PREMIUM GAS.** Petroleum Co. Ickes has ordered U. S. refineries to cut in half their production of premium gasoline for civilians. The move is explained as an effort to conserve tetraethyl lead, and is the fourth time the production or the octane number of premium gas for civilians has been cut since June.

\* \* \*

**COUPONS EXPIRE.** B-3 and C-3 gasoline ration coupons expired Sept. 30, as well as T coupons for the third quarter. Holders and B-3 and C-3 coupons, issued for use beyond Sept. 30, may exchange them for valid coupons at their local boards.

\* \* \*

**TIRE INVENTORY.** All tire dealers except those classed as mass distributors, are now required to take quarterly inventories for the OPA. Previously, dealers who reported inventories to the WPB were not required to make them to the OPA.

\* \* \*

**TIRE QUOTAS.** For October, quotas of both passenger-car and truck tires remain virtually unchanged from September. The allocations of passenger car and 7.50 and smaller truck tires are exactly the same, at 1,600,000 and 280,000, respectively, while the allotment of 8.25 and larger truck tires is 105,000, or 3000 more than in September.



## YOU ARE THE BEST BRAKE MAN IN TOWN

There's both Profit and a heap of Satisfaction in repeat business built on Extra Value. That's why more and more service men are using GATKE Brake Lining.

The smooth, non-grabbing action adds countless miles to tire life — promotes Safety and Driving Comfort. The extra wear life means extra miles of dependable brake performance between adjustments.

Ease of installation gives you BETTER Brake Relines QUICKER—avoids complaints and time-consuming adjustments.

Remember this — GATKE CUSTOM-BILT Brake Linings are made for all trucks, tractors, trailers, buses, taxicabs and passenger cars. GATKE Drilled Sets are available for 90% of vehicles.

Many other time-saving features help you do MORE WORK — BETTER — in less time.

Ask your GATKE Jobber or write.

**GATKE  
BRAKE BLOCKS  
for Trucks, Tractors,  
Trailers, and Buses**



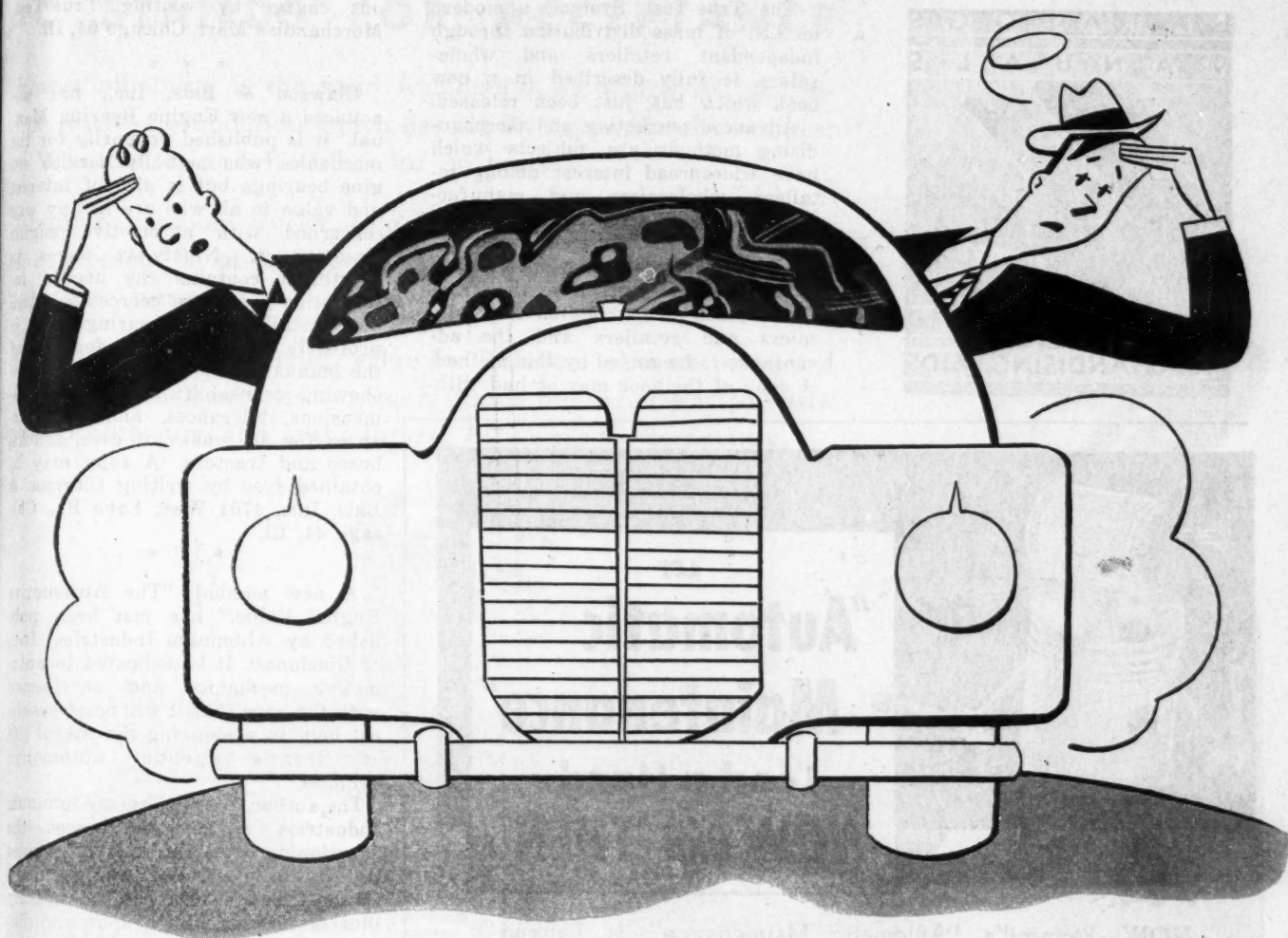
GATKE Simplified Catalogs make it easy to quickly locate CUSTOM-BILT Set for the make, year and model.

**Gatke**  
CUSTOM-BILT

**BRAKE LININGS**

BLOCKS SETS ROLLS SHEETS

GATKE CORPORATION 228 N. La Salle  
Chicago 1, Ill.



**When he finds his way to your shop...**

## **Suggest replacement with L-O-F SAFETY PLATE GLASS**

Whether he knows it or not, he's looking for clear visibility.

But he's waiting for someone to remind him that he'll get it only if he replaces that discolored windshield with new, clear safety glass.

Most cars, trucks and buses on the road today are getting along in years. When they come to your shop with glass that needs replacement (no matter for what purpose they have come in) don't fail to point out that you can replace it quickly with genuine Libbey-Owens-Ford Hi-Test Safety

Plate Glass. Tell them why this glass is better—that it is ground and polished for maximum freedom from annoying distortions.

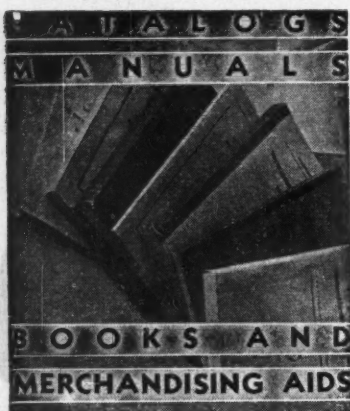
If you do your own glazing, your L-O-F Distributor will be glad to check your stock and keep you supplied with the fast-moving sizes and shapes. If you send your glazing work out, he can get you in touch with a shop that uses genuine L-O-F Hi-Test Safety Plate Glass. Libbey-Owens-Ford Glass Company, 48104 Nicholas Building, Toledo 3, Ohio.



**LIBBEY • OWENS • FORD**

*a Great Name in* **GLASS**





The True-Test System, a modern method of mass distribution through independent retailers and wholesalers, is fully described in a new book which has just been released.

Advanced marketing and merchandising methods are subjects which have widespread interest among retailers, wholesalers and manufacturers, particularly at the present time due to the apparent rapid approach toward the post-war period.

The book fully describes the True-Test method of distribution to wholesalers and retailers and the advantages to be gained by this method. A copy of the book may be had with-

out charge by writing True-Test Merchandise Mart, Chicago 54, Ill.

\* \* \*

Clawson & Bals, Inc., has announced a new Engine Bearing Manual. It is published primarily for the mechanics who actually service engine bearings but is also of interest and value to all who are in any way concerned with automotive engine maintenance. Ninety-six pages in length, it contains the needed information to assure correct selection and installation of bearings. It is profusely illustrated. A feature of the manual is the inclusion of tables showing crankshaft and bearing dimensions, tolerances, and oil clearances for all makes of cars, trucks, buses and tractors. A copy may be obtained free by writing Clawson & Bals, Inc., 4701 West Lake St., Chicago 44, Ill.

\* \* \*

A new manual, "The Automotive Engine Value," has just been published by Aluminum Industries, Inc., of Cincinnati. It is dedicated to automotive mechanics and servicemen with the hope that it will be of practical help in prolonging the useful life of today's essential automotive vehicles.

The author, Walter Trefz, Aluminum Industries, engineer, discusses the functioning and servicing of valves in non-technical and easily understood language. The text is profusely illustrated with photographs and diagrams that give a simple, clear-cut explanation of the subject.

Questions about valves, guides, springs, seat inserts and tappet clearances, are answered in detail.

One section of the book describes the causes of valve failures and their correction; Overheating, deposits from combustion, and distortion of engine structure. The method of restoring the valve mechanism to its maximum performance is explained in the text on valve servicing, condensation, refacing valves and valve seats, and valve assembly.

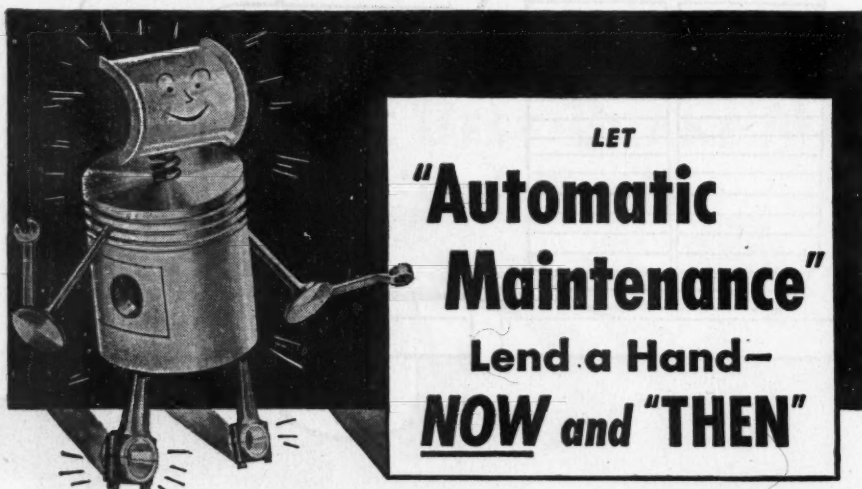
Copies may be obtained by writing to Aluminum Industries, Inc., Replacement Parts Div., 2438 Beekman St., Cincinnati 25, Ohio.

\* \* \*

"How to Make Money on a Falling Thermometer," a new four-page illustrated folder, has just been released to motor-oil distributors and dealers by the Amalie Division of L. Sonneborn Sons, Inc., New York.

Accompanying the folder, which emphasizes how sales and profits can be increased with special winter oil and lubricants, is an additional illustrated four-page user folder entitled, "When the Mercury Dives for the Bulb" with space reserved for the dealer's imprint. This folder presents helpful hints to owners and operators of passenger cars, trucks, buses, con-

(Continued on page 92)



**NOW**—Pennzoil's "Automatic Maintenance" is helping plenty of motor service men by the way it helps keep customers satisfied. This satisfaction grows from people seeing their cars give more trouble-free miles per maintenance dollar spent.

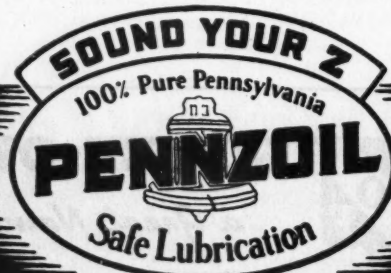
"Automatic Maintenance" is the result of sound lubrication. And by keeping engines cleaner, freer from conditions that result in untimely breakdowns, Pennzoil helps keep your customers satisfied while you're busy with vital, necessary service and repair work.

**THEN**—When real competition sets in later on, you'll find a lot of steady, dependable business coming in from today's satisfied customers.

To help insure your future, sell Pennzoil now; you'll find out that *something special happens* when it goes into a customer's crankcase—to work for him *today* and for you *tomorrow*.

Get in touch with your distributor now—put up the yellow oval sign, and let the hardest working oil on the market work for you.

**THE PENNZOIL COMPANY**  
EXECUTIVE OFFICES  
OIL CITY, PENNSYLVANIA



## AC STANDS FOR ACCEPTANCE

Utmost reliability is the solid foundation on which AC acceptance rests—a foundation which has solidly supported the business of Wholesalers and Retailers for 36 years.

Wherever cars and trucks are driven, you'll find AC Spark Plugs as equipment in at least two out of every four. And that has been true since 1932.

All this has a very practical value for Retailers who are interested in replacement business, because it points the surest way to spark plug profits, now and in the future. AC stands for acceptance.



# SPARK PLUGS

BUY WAR BONDS FOR A QUICKER VICTORY

### SEND FOR AC SHOP MANUALS

Field Service Dept., AC Spark Plug Div., G. M. Corp.  
910 Union Industrial Bldg., Flint, 3, Mich.

Gentlemen: Please send at once, no charge

- AC Shop Manuals checked: **MA-10**
- |  |  |
|--|--|
| <input type="checkbox"/> HOW TO SERVICE SPARK PLUGS                    | <input type="checkbox"/> How to Service Oil Filters  |
| <input type="checkbox"/> How to Service Spark Plug Cleaner             | <input type="checkbox"/> How to Service Fuel Pumps   |
| <input type="checkbox"/> How to Service Ammeters and other Instruments | <input type="checkbox"/> How to Service Air Cleaners |
|  | <input type="checkbox"/> How to Service Speedometers |

NAME \_\_\_\_\_

FIRM \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_



## Named Ad Chief

Roger C. Fleming, for more than a year the regional director for the General Motors Dept. of Public Relations in Indianapolis, has been appointed director of advertising and public relations for the Allison Division of General Motors, it was announced recently by E. B. Newill, general manager.

Fleming, who has been associated with GM's department of public relations since 1938, takes over the advertising responsibilities formerly handled by Volney B. Fowler who has taken over a similar post at the cor-

poration's Electro-Motive Division, and also assumes the national public relations assignment until recently handled by Francis Walton through Arthur Kudner, Inc., Allison's advertising agency.

## Opens New Branch

The Northern Supply Co., Bay City, Mich., jobbers announces the purchase of Al's Auto Parts, Midland, Mich. The company also has a branch at Saginaw.

H. A. "Bill" Williston, who has been with the company for 15 years, will manage the new branch at Midland.



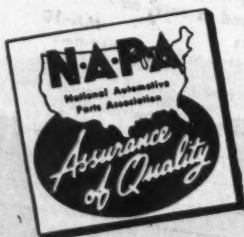
# PURITAN GASKA-SEAL

### No. 1—DRIES HARD

Spreads easily. Sticks quickly. Sets hard. Especially recommended for water connections, push rod covers, oil pan, valve plates, transmission, differential housings.

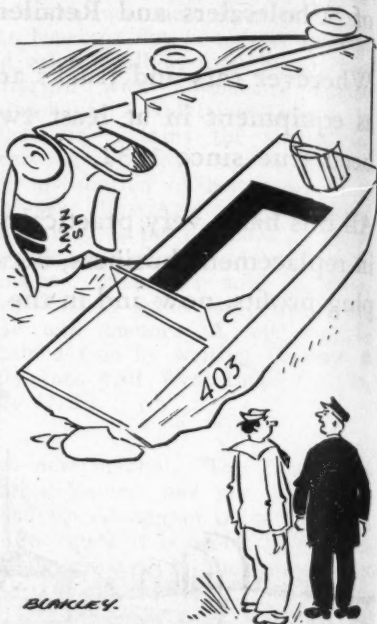
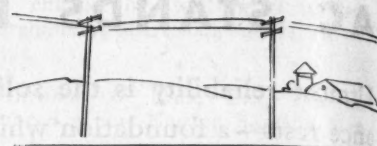
### No. 2—STAYS PLIABLE

Spreads easily. Seals tightly but stays soft and pliable—easy to remove. Recommended for head gaskets, crank case assemblies, thermostat, oil and gas connections, etc.



*Now Available!*

**PURITAN COMPANY, INC.**  
ROCHESTER 6, NEW YORK



"Don't try to explain. Just phone 'em we're shipwrecked on Road 22, ten miles west of Des Moines."

## Catalogs and Manuals

(Continued from page 90)

struction machinery, and tractors on the advantages of protecting their engines from subzero temperatures.

Copies may be obtained by writing on your business letterhead to the Amalie Division, L. Sonneborn Sons, Inc., 88 Lexington Ave., New York 16, N. Y.

\* \* \*

One of the most comprehensive manuals on the design and construction of pneumatic tires ever issued has been published for U. S. Army training schools by The B. F. Goodrich Co., and is now also available to civilians interested in the subject.

Consisting of 50 well-illustrated pages, the manual discusses the basic principles of pneumatic-tire design, including pictured descriptions of the role which each part of the tire plays in its operation and how tires are manufactured.

Measurements and other data on each of the important classifications of heavy-duty military and civilian tires and proposed load and inflation table for them are one of the features of the publication, together with tube, valve, flap and rim data. Copies may be obtained by writing to The B. F. Goodrich Co., S. Main St., Akron, Ohio.



Byron C. Foy

### The Name Is Foy

New president of the DeSoto Division of the Chrysler Motor Corp., Byron Foy sprang into national automotive prominence only a short time after he was graduated from college. He was a salesman for a Dallas, Tex., Ford dealer when he won a national selling contest conducted by Norvall A. Hawkins for the Ford Motor Co.

After a few years as a traveling representative and then as a headquarters man at Detroit, Foy became president of the Reo Motor Car Co. of California at Los Angeles, then went to New York as an associate of Simons, Stewart and Foy, metropolitan Chrysler distributor.

Foy was made president of the De Soto Division in 1931.

### Veterans Offered Jobs

America's 18,726 ball and roller bearing workers, serving on fighting fronts around the world, will find their former jobs waiting for them after the war, the Anti-Friction Bearing Manufacturers Association announced recently.

With 18,667 workers in its employ just before Great Britain and France declared war on Germany in September, 1939, the anti-friction bearing industry is in the unique position of having supplied more men and women to the armed forces in the intervening years than it employed in peacetime.

In its statement, the association said plans have been made to re-employ "all of the men and women who have done such a magnificent fighting job for all of us."

"We want them back on their old jobs—we'll be proud to have them back," the statement added. "Definite plans have been made throughout the ball and roller bearing industry for their reemployment, their rehabilitation if necessary, their retraining and anything else necessary

to readjust them to peacetime jobs.

"Plans also have been made to protect their seniority rights, their insurance privileges, their vacation allowances. Everything, in fact, that we can possibly do for them will be done."

### Opens Factory Branch

Reo Motors, Inc., announced through its general sales manager, Don C. Streeter, the opening of a direct factory branch at Manchester, N. H., with K. W. Wright as branch manager.

Streeter stated that this addition

to Reo's New England facilities was being established as a part of a long-range program to enable his company better to serve the motor truck and bus industries, both now and after the war.

K. W. Wright, the new Manchester manager, is a veteran in the trucking business, having started with White Motors in Boston as a mechanic in 1922. From Providence, R. I., as White Branch Manager he joined the Autocar Company and later became Superintendent of Maintenance for a large bus operation in New England.

## GET SET FOR A *Record Season* on HEATER REPAIRS



STOCK UP ON

# EVERHOT

## Universal PARTS and FITTINGS FOR ALL DEFROSTER HOT WATER HEATERS

Identically the same as parts used by leading heater manufacturers . . . original equipment on many popular heaters.

THIS No. H809 ASSORTMENT  
WILL GET YOU STARTED IN THE  
HEATER REPAIR BUSINESS

Contains special pieces for all FORD,  
CHRYSLER and G-M cars and trucks,  
plus other essential parts required for  
90% of the work  
that comes  
your way.

LIST PRICE \$10.00  
EACH.....

DEALER PRICE \$6.75



ORDER No. H809 ASSORTMENT from Your Jobber

## EVERHOT PRODUCTS CO.

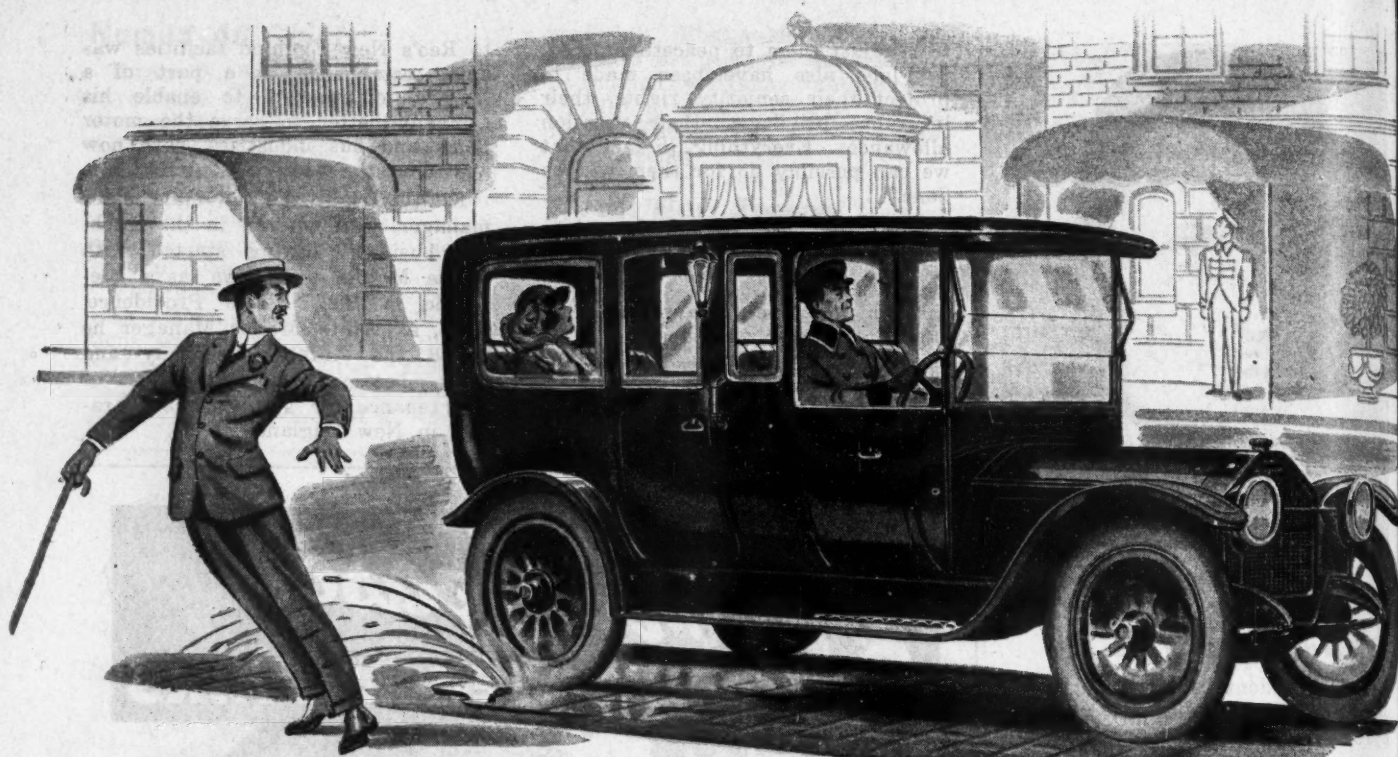
2055-59 WEST CARROL AVENUE

CHICAGO 12, ILLINOIS

1406 SOUTH GRAND AVENUE

LOS ANGELES 15, CALIFORNIA





## *She Owned the Avenue - in 1914* ... AND SHE HAD A BUFFALO MUFFLER, TOO

● The \$7,200 Peerless Berline-Limousine of 1914. Class with a capital "C," she owned the avenue as she glided along with her seats for seven over a 140-inch wheel base—and her big six-cylinder, 60-horse engine hushed by a Buffalo Muffler.

That was a long while ago—and other top-drawer automobiles have stepped into the Berline-Limousine's place. But the same passing years have served only to widen the use of Buffalo Mufflers. Today, Buffalo Mufflers hush up the exhaust of all kinds of cars—high and low-priced alike.

The years, since 1913, have seen Buffalo originate so many advances in acoustic engineering, in sound construction and in accurate fit, that today Buffalo holds more design and construction patents than any other muffler builder.

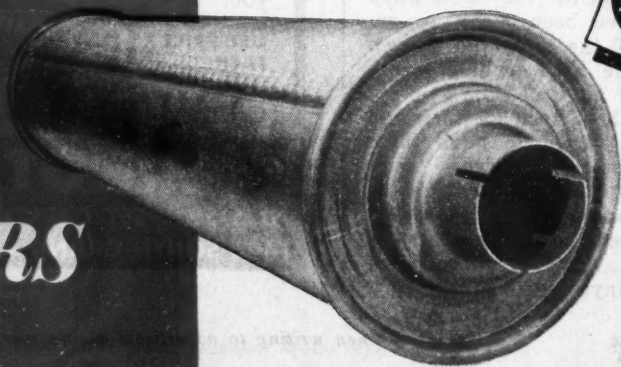
Auto repairmen are doubly served by Buffalo—minimum installation trouble and customer satisfaction... Doubly assured of quality by Buffalo's reputation and the NAPA Seal.

Master stocks in 38 NAPA Warehouses help jobbers to give prompt and complete service on Buffalo numbers. See your NAPA Jobber. He's a good man to know!

**BUFFALO PRESSED STEEL COMPANY, INC. • YOUNGSTOWN, OHIO**

Also manufacturers of Buffalo Oil Filters and Kralin-Impregnated Replacement Elements for all Popular Filters. Sold in Canada under the brand name "KRALINATOR"

# Buffalo MUFFLERS



● A complete line of mufflers including straight-through, reverse-flow, shell-type, round and oval designs.

## NADA to Hold Convention At Chicago in January

Initial arrangements have been made to hold the annual National Automobile Dealers Association Convention next year at the Stevens Hotel, Chicago, during the week of Jan. 28.

Some dealers had urged that the convention be held at Detroit, but the convention committee decided, in view of the fact that adequate facilities were difficult to obtain in that city, that the huge attendance expected could be better accommodated at Chicago.

The executive committee has appointed a special convention committee, consisting of Ben Wright, of Chicago, chairman; Lynn S. Snow, co-chairman; E. L. Benning, of Wisconsin; A. G. Miller, of Illinois; W. S. Edwards, of Alabama; Paul Smithson, president of the Chicago Automobile Trade Association, and H. A. Egolf, president of the Illinois Automotive Trade Association. Ed Cleary, manager of the Chicago association, and C. W. Coons, manager of the Illinois group, have been invited to act in an ex-officio capacity on the committee.

## Wins Air Force Award

For having trained several thousand Army and Navy technicians in the care of bullet-seal fuel cells and other war materials, The Goodyear Tire & Rubber Co. has received one of the Army Air Force's coveted Certificates of Service Award.

The award was made to R. T. Brown, manager, military products engineering, and C. B. Chambliss, head of the school, which was operated from March, 1942, to last July. The school was staffed by Goodyear experts and by instructors from other Akron companies.

Brown disclosed that 2350 soldiers and 700 sailors attended two weeks' courses at the school, including Australian and English soldiers and sailors. Each two weeks' course was followed by a week's actual shop work in Akron.

## Expansion Planned

Doubling of its automobile production facilities is contemplated by the Studebaker Corp. after the war, according to H. S. Vance, chairman of the board, and Paul G. Hoffman, president. Additional buildings will be erected and it is estimated that between 14,000 and 16,000 persons will be employed, compared with 8000 employed before the war.

A number of standard machine tools for car production already have been ordered by Studebaker, the officials said, and deliveries will start within four months. Six months would be required, once Germany falls, to resume automobile production.

# VITALIC

*fan belts  
and  
radiator  
hose*



## 40 YEARS EXPERIENCE

is incorporated in every Vitalic product, whether war materials or civilian goods. That Continental has done a good job producing war materials is evidenced by the Army-Navy "E" Flag and Star for sustained excellence in production. ★ Production of Vitalic fan belts and radiator hose is limited only by war activities, and Vitalic jobbers are receiving their full share of war-time production.



# C

## ONTINENTAL RUBBER WORKS

ERIE, PENNSYLVANIA, U. S. A.

### BRANCHES

Baltimore, Md.	Cleveland, Ohio	Kansas City, Mo.	Philadelphia, Pa.
Boston, Mass.	Dallas, Texas	Los Angeles, Cal.	Pittsburgh, Pa.
Buffalo, N. Y.	Dayton, Ohio	Memphis, Tenn.	Rochester, N. Y.
Chicago, Ill.	Detroit, Mich.	Milwaukee, Wis.	San Francisco, Cal.
Cincinnati, Ohio	Indianapolis, Ind.	New York, N. Y.	St. Louis, Mo.



## Appointed Sales Aide

The Ford Motor Co. has announced the appointment of Alan B. Pease, for many years a sales executive, to the new post of assistant director of sales. In this capacity, he will assist Jack Davis, director of sales and advertising, in readying the company's sales organization for post-war operations.

Pease has been with the Ford Motor Co. 33 years, and has had a wide experience in sales, service, and manufacturing departments. Over a period of 20 years, Pease was manager of the company's branches at

Buffalo, N. Y., Cleveland, O., and Boston, Mass., and brings to his new position a wide experience in the automobile business.

## Heads Pontiac Service

Earl M. Taber, associated with General Motors since 1919, has been appointed service manager of the Pontiac Motor Division. He had been acting service manager since Feb. 1, 1943. Before that, he had been service manager in charge of the eastern half of the United States for two years.



**DO YOU NEED MORE AIR?**

**YOU** can replace your old, inefficient Air Compressor easily and quickly under Government regulations if it is no longer usable. Write us and we'll be glad to explain the simple steps to be taken to secure a new one. Wayne Compressors give more air at the right pressure, cost less for service, are sold with a most unusual Performance Guarantee and backed by a Nationwide Service Organization. Ask for bulletins and prices.

**THE WAYNE PUMP CO., FT. WAYNE 4, IND.**



**Wayne AIR COMPRESSORS**



"—Plus a slight carrying charge, lady."

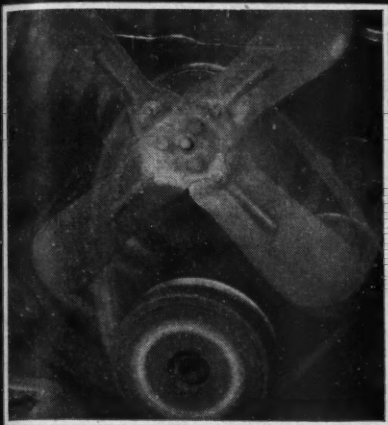
## Acquires New Plant

James F. Strnad, president of Lempco Products, Inc., of Bedford, Ohio, in suburban Cleveland, has announced that Lempco has purchased the Cleveland Pressed Steel Co., 2953 East 55th Street, Cleveland. A new addition will be made to the plant, as soon as priorities for building materials are granted, to start manufacturing a peacetime product which Lempco's experimental department has been developing for the past three and a half years.

The Cleveland Pressed Steel Co. has been making tools, jigs, dies, fixtures and metal stampings since 1912. It will be operated under its present name in the same location by its present executives. George Breck will continue as vice-president and general manager. Harry Hayden, who has been with the company since 1914, has been promoted to general factory manager.

## Nash Holds Meetings

Nash Motors is prepared for the post-war period with an improved selective dealer franchise and equipped with detailed plans pointing to a high level of employment and expansion of Nash car sales and service in the low-priced car field, it was announced Sept. 2 by H. C. Doss, general sales manager of Nash and a vice president of Nash-Kelvinator Corp. To carry details of this information to dealers in all parts of the country, Nash Motors held a series of meetings last month with zone managers, distributors, and field sales and service representatives gathering in New York, Chicago and San Francisco.



2 Then it SLIPS



3 Then it WEARS



4 Then it FAILS

A Thermoid Fan Belt was removed from a Buick, and the weight of a horse suspended from it. When put back on the car, the belt performed perfectly at the same adjustment! That's convincing proof of the advantages of Thermodized Pre-Stretching.

A DIFFERENT

COLOR





## Market Study Issued

A special 16-page booklet has just been issued to all members of The Motor and Equipment Wholesalers Association by the association's headquarters office entitled "Study With Care Your Market Potentialities for Automotive Replacement Parts, Equipment and Supplies."

The main purpose of the new booklet is to refresh the minds and give a few new ideas to automotive wholesale distributors on what their market potentialities are. It is felt that the wholesalers who are alert and study their point of sales possibilities will

advance and grow in importance as a very essential key in the wholesale distribution and service industry picture in the territory they cover.

Several government departments and agencies assisted by furnishing MEWA with its latest figures. This booklet on markets is the third in a series.

## Chosen Ad Manager

M. C. Keevers has been named Advertising Manager of the Indian Motorcycle Co., Springfield, Mass., the company announced last month.



**Shurhit**  
DEPENDABLE  
IGNITION PARTS

**Made Better... Perform Better**

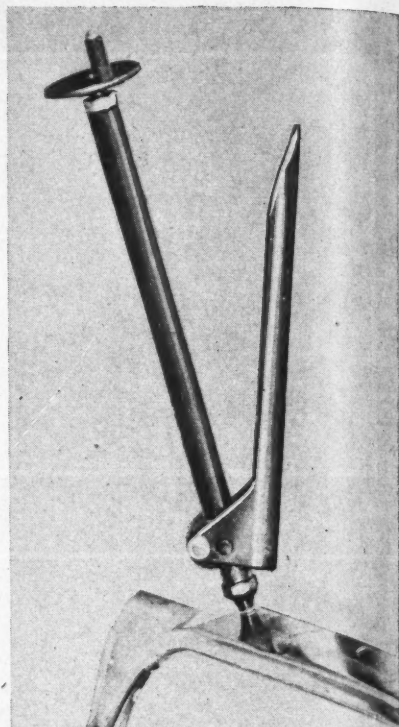
Shurhit Ignition Repair Parts are not ordinary replacements. They are made better, and therefore perform better... The reason for their excellent performance is due in part to their superior construction. For example: Shurhit Contact Points are extra size . . . Shurhit Ignition Coils have an extra number of turns of wire . . . Shurhit Condensers have extra quality insulating materials—and so it goes through the Shurhit line.

Over one hundred million Shurhit Ignition Repair Parts have been sold during the past twenty years. This record speaks well for the high quality and acceptance of our products... For details on the complete line, consult nearest Shurhit Jobber, or write us.

When inquiring about Shurhit Parts, also ask for detailed information on Shurhit Electrical Testing Equipment.

New catalog is just off the press.

**SHURHIT PRODUCTS, INC.**  
WAUKEGAN, ILLINOIS



A Chicago automobile repair shop is now using Rivnuts, the blind fastener which serves as a nut plate or rivet, or both, as a nut plate in attaching radiator grilles, it is reported by The B. F. Goodrich Co., developer of the Rivnut. Here a workman using the special Rivnut tool, is attaching a grille more rapidly and securely than by previous methods. The Rivnut, originally developed for aeronautical application, is now being offered for general industrial use.

## Heads Radio Sales

Paul V. Galvin, president of Galvin Mfg. Corp., makers of Motorola home and car radios, announces the appointment of Wm. H. (Bill) Kelley as general sales manager of the corporation.

Bill Kelley has been an important sales executive of RCA for 20 years. He recently resigned as regional manager of the San Francisco district, and assumed his new duties with Motorola on Sept. 1, 1944.

Prior to his RCA association, Kelley spent 2 years in the sales department of Garod Radio. During his 22 years in radio, he has contacted distributors and dealers across the entire country and comes to the Motorola organization equipped with intensive knowledge and practical sales experience of nationwide scope.

Mr. Galvin states that the management of the Motorola sales and products organization is otherwise unchanged. Elmer H. Wavering will continue to head the Car Radio Division, Walter H. Stellner will continue as manager of the Home Radio Division, and N. E. Wunderlich remains sales manager of the Police Radio Division. Advertising and Sales Promotion activities will be handled by Victor A. Irvine.

# MEANS EVERYTHING

**M**ANSFIELD'S relationship with its jobbers is more a family relationship than is generally found in the world of business. A man doesn't pick a partner lightly. He looks ahead and gives thought to those with whom he will spend years of business association. Such forethought becomes the ground structure of future success.

◆ Every Mansfield jobber is hand picked. He must represent those ideals of service on which Mansfield success has been built. Thus is laid an association of friendly confidence that can and has met every problem of tire selling, no matter how difficult.

◆ Independent tire dealers all over America have learned that this is the Mansfield policy. They now know that this policy grew out of Mansfield's desire to meet and understand the problems of local independent tire dealers. Such dealers know there is no association more firmly knit than that between Mansfield jobbers and their dealers. This policy has always worked in the past and will continue to work in the future.



*The independent tire dealer sells mostly to trusting friends and neighbors. When the jobber salesman calls on such a dealer, it is a visit by one who feels an intimate responsibility to a friend. These salesmen represent wholesalers who know that their success rests upon the success of their dealers.*

THE MANSFIELD TIRE & RUBBER CO. • MANSFIELD, OHIO



*Following Well Known Tires—*

**MANSFIELD, UNITED**

WHOLESALE EXCLUSIVELY



## New Cars By Spring?

(Continued from page 21)

importance of making this start now if large-scale unemployment is to be avoided, it is necessary to comprehend the working of the complex automobile industry. The Automotive Council for War Production has prepared a chart showing the timetable of procedures necessary for getting back into partial reconversion. It shows a "lead-time" period of six months in advance of the starting day is necessary for engineering

and testing, getting tools and dies in shape, obtaining machinery and equipment, and getting materials. Assuming that the six months could be shortened to three months as an absolute minimum, it is apparent that, even if authority to begin all of these preparations should be given now, it already is too late to build any cars this year. The only official move so far that is of any use to the industry is the recent WMC authorization to use a limited number of planning engineers and technicians for these specific jobs: Bringing specifications up to date, correcting known weak-

ness in the 1942 models, making non-functional appearance changes to distinguish new cars from prewar models, preparing plant layouts, and doing other related preliminary work. Even this concession, while a gain, is not an unmixed blessing. Although the plan was approved by WMC and WPB, some companies report that Selective Service is not inclined to honor deferred classifications given to younger men who have been on war work when they are transferred to reconversion planning. This case is an excellent example of the conflicting interests that industry has to contend with.

Although classified differently by the various manufacturers in order of importance, here are the principal problems facing the industry: Manpower (although this has been helped somewhat as outlined above), difficulty in obtaining machines and equipment, getting plant space cleared, getting materials, and finding warehouse space for storage of government-owned tools and equipment when clearance starts.

Machine tools constitute a major problem. At the outset of the war, all automobile companies placed all their tools they did not need for war work at the disposal of all industry. Apparently these machines now are not recoverable. For example, Oldsmobile Division of General Motors will need fender presses before it can get back into production, because those it had were pooled and now are in Australia. In many cases, the manufacturers do not even know where their tools are. All companies need some tools before they can turn out a single car. Oldsmobile needs 352 machines, Cadillac 221, Buick 310. The corporation as a whole needs 3600 machines for partial reconversion to 50 per cent of pre-war capacity.

These new tools are not now available from the machine-tool builders. The WPB authorized placing of orders on Aug. 15, but since the orders are unrated and can be filled only after priority orders have been met, the authorization is a dead letter so far as the automobile industry is concerned because the machine tool builders still have a backlog of 5½ months capacity on rated orders. Furthermore, acting WPB chief Krug announced Sunday that his agency could not grant the industry any priority on machine tools.

The machine-tool industry itself is not in a good position because, when a slump in orders hit a few months ago, the industry as a whole lost about 35 per cent of its manpower to war plants. Many companies took on war contracts themselves and now are tied up with war production. WMC has promised to look into the manpower situation in the machine-tool field, but so far nothing definite has been done.

(Continued on page 108)

# MOTOR TESTING UNITS

*Now*  
**Available**

(AS INDIVIDUAL TESTERS)

## NO PRIORITY NEEDED!

Individual testing units comprising Series E-400 Assemblies, and other Allen products listed below, can be purchased from Allen jobbers WITHOUT PRIORITY RATING. Jobbers handle the ratings on Form WPB-547.

1. Battery Chargers—(Fast and Wall Types)
2. Gauges—(Compression and Vacuum)
3. Growlers—(Armature)
4. Synchrographs—(Distributor Testers)
5. Test Stands—(Generator, Starter and Magneto)
6. Tune-up Testers—(Coil, Condenser, Volt-Amp, Tachometer and Contact Angle)
7. Timing Lights and Cell Testers
8. Puller Presses and Radiator Test Plugs
9. Undercutters and Magnetizers
10. Welders—(Arc and Spot)



## Faster Service Today — More Profit Tomorrow

This Allen E-407 includes Condenser Tester, Volt-Amp Tester, Coil Tester, Electric Tachometer, Vacuum & High Tension Tester, and Contact Angle Tester & Compression Gauge. Only two detachable leads required for 95% of ALL tests! Here's scientific motor analysis simple as A-B-C. Anyone can learn various operations in a few hours.

Get these Allen units to increase shop efficiency now — and to sell profitable tune-up jobs when you need more service volume.

**ALLEN**

*Equipment*

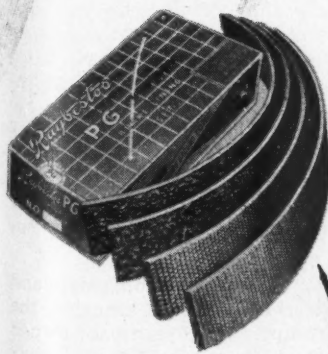
ALLEN ELECTRIC & EQUIPMENT CO.  
KALAMAZOO, MICH.

# THIS IS PROGRESS



From horseless carriage to super-bomber, Raybestos has stopped them all. ★ Raybestos brake linings and clutch facings have won universal consumer acceptance because they are made of advanced materials, specially engineered for each make, model and job. They mean longer wear, fewer repairs, greater safety and dependability. ★ Raybestos' 40 year leadership is the result of providing constantly improved friction materials. And Raybestos' war-won know-how will make Raybestos still more profitable to you in the days ahead.

THE RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.



INVEST IN AMERICA  
BUY BONDS



**Raybestos**

AMERICA'S BIGGEST SELLING

**BRAKE LINING**



BRAKE LININGS, CLUTCH FACINGS, FAN BELTS, HOSE FOR CARS, TRUCKS, BUSES, TRACTORS ON THE WAR AND CIVILIAN FRONTS



## New Cars by Spring?

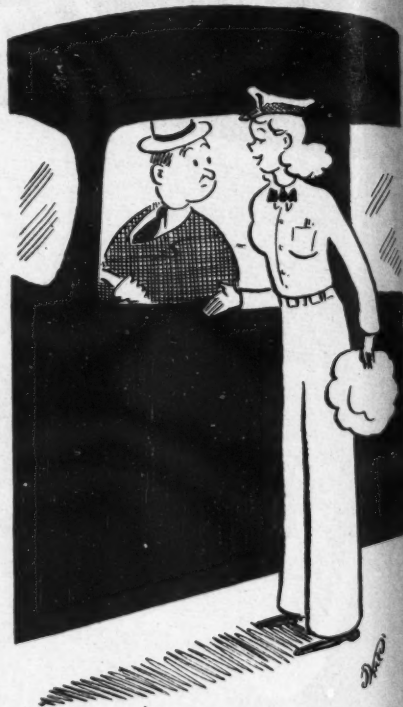
(Continued from page 106)

As for purchase of surplus government-owned machine tools, the main difficulty is that there has been no clearly defined policy. Several companies report that they have tried to buy machines now in their plants and leave them on the job until no longer needed on war work. In only one case to date has it been reported that such a sale was made. General Motors, at the end of September, succeeded in getting clearance on the purchase of 789 machine tools from

the Defense Plant Corp. for its Chevrolet plant. In other cases, it is reported that several agencies may have machines in a plant and no one apparently knows who has authority to sell, what procedures to follow, or what to charge. On this last question, one procurement officer stated in mid-September that he had not as yet heard of the Clayton Price Schedule for pricing surplus machine tools, even though it had been issued July 12.

Although there is much talk about the industry obtaining machine tools from surplus goods, the manufacturers do not look on that method as the

GAS & OIL



"We've checked your car. The battery is exquisite, the tires are heavenly, the motor is a darling, and the spark plugs are too cute for words."

solution. They are, of course, willing to buy some surplus tools, but they emphasize that, until they know which machines will not be needed for production of goods for the Jap war, this is hazardous because it would do them little good to buy machines that will be tied up beyond the end of the German war. Rather, they now believe that machine tools for the industry should be given a priority rating second only to those needed for urgent war production and ahead of those allotted to essential civilian industry. In this connection, they make an interesting point that all industries that have had normal civilian production completely shut off by the war and have been completely converted to war production should be accorded special consideration by the government because of the tremendous reconversion problems involved. Charles E. Wilson, GM president, who made the suggestion, stated that, if such a policy were to be put into effect, it would save many months of unemployment.

Another element of confusion and concern is the matter of clearing the plants promptly of government-owned equipment and surplus parts after "Go" day. Although the industry has been pressing for action on organization of procedure that will move this material quickly, nothing

(Continued on page 110)

**YOU CAN BANK ON MCALEER PRODUCTS and SERVICE TODAY**

**McAleer**  
Quality-Controlled  
AUTOMOTIVE FINISHING MATERIALS

POLISH and CLEANER  
QUICK-WAX  
SPEEDIE-RUB  
Rubbing Compound  
QUICK  
Rubbing Compound  
A-1 Rubbing Compound  
WHIRLWIND  
Machine Compound

AYE!  
AND BUILD  
BETTER BUSINESS  
TOMORROW  
TOO!

**... THESE TOP MONEY MAKERS ARE RINGING CASH REGISTER BELLS FROM COAST TO COAST**

**ORDER your needs TODAY**

**McAleer**  
MANUFACTURING CO.

QUALITY-CONTROLLED  
Automotive - Household - Industrial  
FINISHING MATERIALS  
ROCHESTER, MICHIGAN

**American Brakeblok**  
BRAKE LINING • CLUTCH FACINGS  
V-BELTS • RADIATOR HOSE

**BALKAMP**  
PARTS FOR FORD  
CHEVROLET • PLYMOUTH

**TRICO**  
VACUUM OPERATED  
SAFETY PRODUCTS

**DUCKWORTH**  
TIMING CHAINS

**Allied WISCONSIN**  
PISTONS • SLEEVES

**ECHLIN**  
IGNITION PARTS

**Spicer**  
UNIVERSAL JOINTS

**DOUBLE DIAMOND**  
FLYWHEEL GEARS

**PURITAN**  
BRAKE FLUID

**FEDERAL**  
BALL BEARINGS

**PURITAN**  
WHEEL BEARINGS

**Buffalo**  
SHOULDER

**DETROIT**  
UNIVERSAL JOINTS

**MicroTest**  
GEARS • AXLE SHAFTS

**Allied RAYMOND**  
VALVE SPRINGS

**MARTIN-SENOUR**  
AUTOMOTIVE FINISHES

**elden**  
WIRE AND CABLE

**DITTMER**  
TRANSMISSION GEARS

**BROWN LIPE**  
GEAR BOXES

**Allied PRECISION**  
PISTON PINS

**UNITED**  
PARTS FOR  
HYDRAULIC BRAKES  
FUEL PUMPS

**CELORON**  
TIMING GEARS

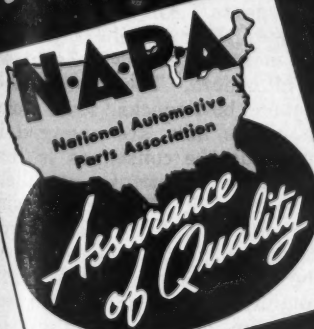
**Allied A.P.C.**  
VALVES

**STANDARD**  
GREASE RETAINERS

**MONMOUTH PRODUCTS**  
ENGINE BEARINGS •  
CLUTCH PARTS  
BOLTS AND BUSHINGS

**New Britain**  
HAND TOOLS

**Allied GRAPHO**  
WATER PUMPS  
PARTS • PACKING



The NAPA Seal identifies and confirms the quality of more than 50 essential lines distributed by the nation's largest independent parts organization.

*Your NAPA Jobber  
is a Good Man to Know!*



FROM MAINE TO CALIFORNIA

*these Names  
mean*

**QUALITY**

backed by an organized

**SERVICE OF  
SUPPLY**

● Supplying the needs of repairmen and their customers with parts of assured quality—without fuss or delay—is now—always has been—and always will be, the business of NAPA — the largest independent organization in the automotive parts business. Whoever you are—wherever you are—and whatever your needs may be...

NATIONAL AUTOMOTIVE PARTS ASSOCIATION • DETROIT, MICHIGAN



## New Cars by Spring?

(Continued from page 108)

definite has been done yet. There is a great need for clear-cut policy delegating authority to persons who can make decisions on which machines will be sold and which ones saved for the government, which surplus parts and materials will be salvaged, and which ones sold for scrap, and other necessary decisions. The industry believes that the government should be training men now to go into the plants and inventory equipment and tag it for disposal on termina-

tion of the contract. If this were done, industry believes, the plants could be completely cleared before the 60-day limit after inventory set up in Contract Settlement Act, after which the companies may move government machinery out at government expense and risk if it is still in the plants. While none of the companies has come out flatly and said so, there is a general impression that at least some of them will not brook a 60-day delay in clearance, but will move the machinery out regardless and take their chances on a government suit. They point out that they

moved their own equipment out into the snow at the outset of the war and that any damage to the government's machinery would be far less than the economic loss of interminable delay. They also count on public opinion to back them up if they take such action in the interest of shortened unemployment.

The task of clearing the automobile plants is monumental. For example, Chrysler Corp. estimates that it will have to move out and store more than \$50 million worth of government machinery and equipment, and 100,000 tons of material, much of it costly; clear approximately 17 million sq. ft. of floor space; set up, check over, and rearrange about 24,000 machine tools; install more than 1000 miles of conveyors; put in a tremendous amount of electrical conduit and piping, and overhaul a million jigs, dies, and fixtures. K. T. Keller also has sounded a warning that the strain on facilities for moving and setting heavy machines would be terrific and might cause delay because all of the companies would be bidding for their services at about the same time. He estimated that the load on facilities will be about five times heavier than at the time of conversion to war production.

Although most of the tools and dies needed for reconversion are on hand, there has been some loss and breakage, and repair and replacement is another stumbling block. C. W. Davis, secretary-treasurer of Davis Tool and Engineering Co., states that present manpower regulations will not permit the industry to take on reconditioning of these dies, even though there is manpower and machinery available in small shops. He points out that most of the die work on war production now is on large plane parts which the small shops cannot handle and that these shops have open capacity. Automobile men are urging that all directives be taken off this type of work and that die shops be given permission to work on automobile dies so long as this does not interfere with war work. Here again, unless some action is taken soon, there will be deadly competition and delay, if all car manufacturers have to wait until after "Go" day before they can get this work started.

The industry is not looking for a great deal of difficulty on obtaining component parts. All companies long ago surveyed their suppliers and report that most of them will be in position to fill orders. There admittedly will be some bottlenecks, since some parts suppliers now are engaged in war work, but the consensus is that in these cases substitute suppliers will be found. C. C. Carlton, vice president of Motor Wheel Corp., states that the parts industry is in about the same position as the automobile manufacturers are in respect to reconversion, and that they will be

(Continued on page 112)

## Ever hear of Insuring ENGINE PARTS?

When engine parts . . . either original or replacement . . . wear out before their time or suddenly break down, the blame is usually placed on the service man or the manufacturer. Such failures of parts are often due to local hot spots or general overheating that result from a

clogged, corroded cooling system. When doing an engine overhaul or tune up job, clean the cooling system FIRST. It's the easiest thing to do and it will remove one of the most common causes of warped, burned out, scored and rapidly worn out engine parts.

### A CLEAN COOLING SYSTEM IS ENGINE PARTS INSURANCE

WARNER COOLING SYSTEM PROTECTOR, added to the water after cleaning, prevents rust . . . keeps the cooling system clean.

**WARNER-PATERSON COMPANY**  
920 S. MICHIGAN AVENUE, CHICAGO 5, ILL.

**WARNER SERVICE CLEANER**  
... extra strength for trucks  
... heavy motors or badly  
neglected cars. Fast, non-  
poisonous.

**WARNER LIQUID SOLDER**  
Repairs leaks in any part  
of cooling system quickly,  
permanently without me-  
chanical aid.



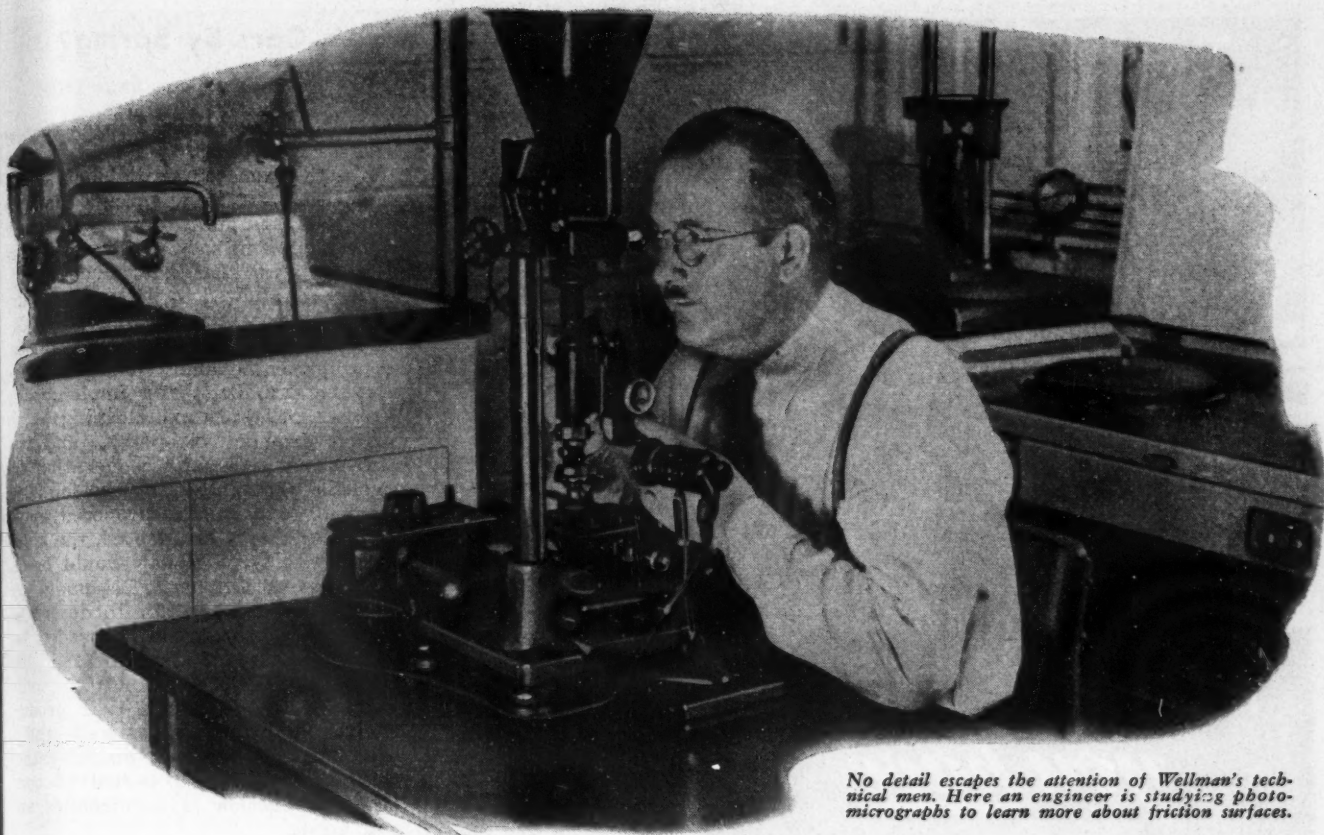
# WARNER

## COOLING SYSTEM COMPOUNDS

STANDARD OF PROTECTION

WARNER COOLING  
SYSTEM COMPOUNDS  
are advertised regu-  
larly in Collier's.

Copyright 1944, Warner-Patterson Co.



No detail escapes the attention of Wellman's technical men. Here an engineer is studying photomicrographs to learn more about friction surfaces.

## YOUR FRICTION PROBLEMS

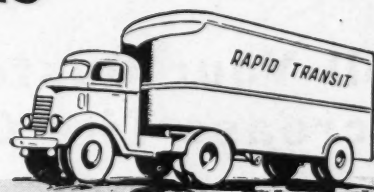
*are mighty important to us*

Simple though it may seem, the friction in your clutches and brakes is extremely complex . . . influenced by pressure, temperature, velocity and many other factors. That's why The S. K. Wellman Company maintains a large and well equipped laboratory to study *your* friction problems.

From such research and experimentation have come many developments that result in smoother performing, longer lasting Velvetouch all-metal friction materials. Specify Velvetouch replacement clutch facings and brake linings for your heavy duty buses and trucks.

### THE S. K. WELLMAN CO.

1374 EAST 51st STREET • CLEVELAND 3, OHIO



#### Interesting Facts About FRICTION

Friction, both in its total amount and its coefficient, is practically independent of the surface areas in contact, so long as the total pressure remains the same.



Thus, in the illustration, the 10 lb. block has the same coefficient of friction ( $f$ ) in a horizontal position as it does in a vertical position. The amount of surface areas in contact has little or no effect on the friction coefficients. When the pressure becomes abnormally high, however, friction increases at a rapid rate until seizing occurs.

For Brake and Clutch . . . Use

# Velvetouch



Velvetouch is *all metal* — a combination of powdered metals, compressed, sintered and welded to a solid steel backing.



**CAUTION**

**MAKE THE CHAINS**  
*you have*  
**SEE YOU THROUGH**

**McKAY**  
MULTI - GRIP  
TRUCK CHAINS  
FOR SINGLE PNEUMATIC TIRES  
ONE PAIR  
30x5  
30x5.50 (5.50-20)  
32x6.00 (6.00-20)  
HARDENED  
MANUFACTURED BY  
THE MCKAY COMPANY  
PITTSBURGH, PENNA.  
MADE IN U.S.A.

## Tell Your Customers How To Increase Tire Chain Mileage

This year's limited supply of new TIRE CHAINS, plus all the old CHAINS now in use, will not be sufficient to meet even essential transportation requirements unless the service-life of every available set is greatly extended. You can help to materially increase TIRE CHAIN mileage, as well as save critical steel for Victory, by acquainting your customers with the following simple rules for TIRE CHAIN conservation:

- Put Chains On Correctly
- Avoid Sudden Starts and Stops
- Drive Slowly On Curves
- Don't Drive Over Bare Pavements
- Don't Crush Chains Against Curbs
- Don't Use Them For Tow Chains
- Inspect Frequently... Repair Promptly
- Clean and Dry Chains Before Storing

Ask your Jobber how to use *old stock* and *odd sizes*; and always recommend the repair of old TIRE CHAINS as long as they can be made fit for further service.



McKAY TIRE CHAINS ARE DISTRIBUTED THROUGH JOBBERS

## New Cars by Spring?

(Continued from page 110)

able to go into production as soon as the car companies.

On the basis of available information, then, it is apparent that the date of resumption of new passenger cars hinges on several factors—when Germany will fall, how much the industry is allowed to do on necessary preliminary work in advance of "Go" day, how promptly the government acts in establishing clear-cut and forthright policies for implementing preparatory work and clearing plants of government property, and the spirit and vigor and cooperation the agencies show in getting the job done. Also, if a suggestion proposed by K. T. Keller should be adopted, the starting date after V-E day would be delayed even further. He suggested that it might be better to determine what war goods would be needed for the Jap phase of the war and then maintain full production until military progress indicated that production could be cut off entirely and a complete reconversion made, rather than carrying on a period of combined production of automobiles and war goods.

As for the rate of production after car building is resumed, no one is willing to make a prediction, since no one is sure just what restrictions, if any, will be imposed. It will be slow at first, requiring about 90 days to get into anything like volume production. The general feeling in the industry is that a production rate of not less than two million cars a year is necessary for practical operation. And there is general agreement that new cars will be rationed to essential users for at least the first several months.

## Made Branch Manager

Appointment of C. A. Burgdorf, who has been associated with the Ford Motor Co. for 21 years, as manager of the Charlotte, N. C., branch, has been announced by Jack Davis, Ford director of sales and advertising.

Burgdorf has been serving as assistant manager of the Charlotte branch since April, 1939. Previously he was sales manager at Houston, Tex., and at the company's Long Beach, Cal., branch. He also served as service division manager at the New Orleans and St. Louis branches.

## District Men Appointed

J. B. Wagstaff, general sales manager of De Soto Motor Corp., announces the appointment of four district managers. They are: Robert W. Bryant and T. B. de Quelin, New York region; Ed Bisinger, St. Louis region; and Edwin Eugene Harrison, Chicago region. All except Bryant have had previous experience as De Soto district managers.



A. W. Seaton with his Inland Equipment, showing Inland \$1000 Bond on Wall



## What the Inland Bond on your wall means to You

The Inland \$1,000 Bond says to tire owners everywhere: "Here is a man whose integrity can be depended upon—a man you can trust to repair those tires you can't replace. He is a man who knows his business, he will do a safe and dependable job guaranteed for the Life of the Tire."

"Here is a man whose GUARANTEE BACKED BY THE INLAND RUBBER CORPORATION is a public pledge to make good on every tire repair job entrusted to him."

It sets you apart from careless, undependable repair men

using slip-shod methods and commands public respect and confidence NOT ONLY with all who know you but with the tire owner who sees you for the first time in his life.

And—most important to you—it means you will get all the tire repair work you can handle, at a higher percentage of profit than you make on any other job in your shop.

## Here is the New Complete Inland Vulcanizing Equipment Used by more than 10,000 Inland Tire Repair Dealers

Inland sets you up in the tire repair business with vulcanizing press, electric motor, flexible shaft, tire buffer, tire mandrel, spreader-inspector, tread and sidewall molds, valve stem mold, sand bags, complete set of tire repair tools, and enough patches to do \$300.00 worth of tire repair work.

With Inland Equipment and Inland Patches you can make vulcanized sectional repairs on any passenger car tire up to 7.50 x 16—and give regular 24-hour service to your customers.

The average repair costs 44c and the average charge made for Inland Vulcanized Repairs is \$3.50. With only five repair jobs a day you can clear \$15.00 profit. In two weeks' time Inland Equipment pays for itself.

## YOU CAN DO IT

You don't have to be a trained tire man. You don't have to hire skilled help. Any man who can use his hands and knows a big opportunity when he sees it can make money on Inland Equipment... can cash in right now on the richest tire repair market that ever existed.

## A COMBINATION THAT CAN'T BE BEAT

With Inland Equipment in your shop and the \$1,000 Bonded Dealer Plan to back you up—to bring you extra customers every day, you can make big profits now and build a thriving business and reputation in your community for the future.



The entire Inland Equipment takes up ONLY 7 square feet of space—about as much as three 55-gallon oil drums.

## Get into this BIG MONEY-MAKING BUSINESS NOW!

A 3c stamp on an envelope with this coupon inside will show you how to make this Big \$1,000 Inland Bonded Dealer Opportunity Yours.

Get it in the mail TODAY



FIRST NATIONAL BANK BUILDING  
DEPT. MA-10, CHICAGO 3, ILLINOIS

### INLAND RUBBER CORPORATION

First National Bank Building, Dept. MA-10, Chicago 3, Ill.  
Please send me complete information on how I can take advantage of the \$1,000 Inland Bonded Tire Repair Dealer Plan.

Name.....

Address.....

Town.....



## Bantam Production Up

Deliveries of war materials by the American Bantam Car Co. during the fiscal year 1944 were 150 per cent greater than for the previous year, F. H. Fenn, president, announced Sept. 15 in his annual report to the company's directors and stockholders at Butler, Pa.

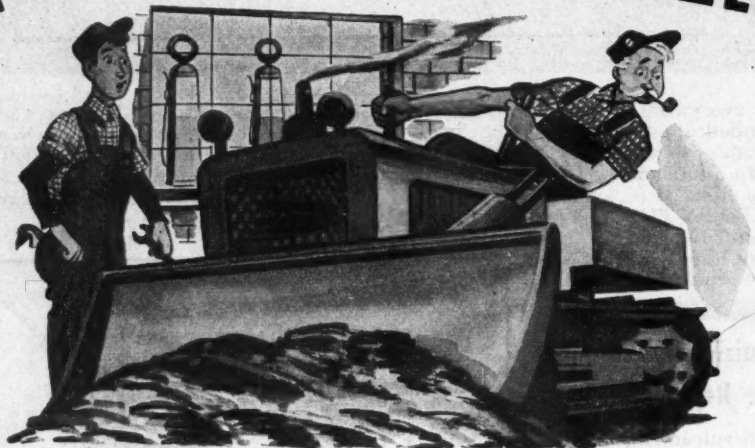
Sales for 1944 were \$16,685,966.34 as compared with \$6,510,757.62 for 1943.

On June 30, 1944, American Bantam was in the best financial condition of its history, Fenn stated. All

indebtedness to the RFC and banks had been liquidated. Through price redetermination of certain items supplied to the Navy, the company agreed to refund approximately \$624,000, of which \$320,000 has already been paid. Renegotiation of war profits through June 30, 1943, has been concluded without refund to the government other than that outlined above.

Net profits for the year ended June 30, 1944, after taxes, were \$627,922.08, leaving a surplus out of which the first preferred stock dividend was declared on July 31.

## YOU DON'T NEED A BULLDOZER



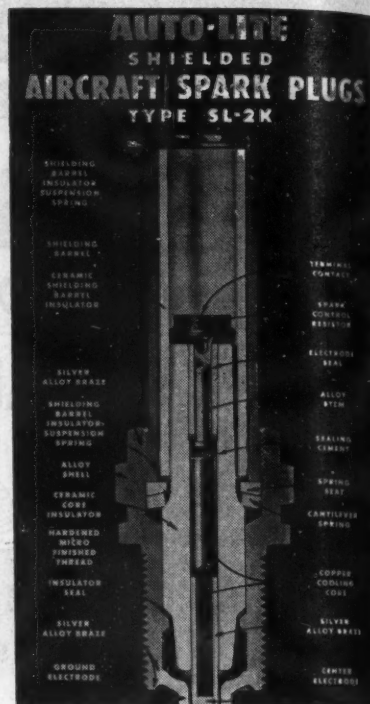
### when you clean garage floors with SOL-SPEEDI-DRI

THE fellow who hired a bulldozer to scrape up the oil and grease from his shop-floors (yes, it actually happened!) could have saved himself a lot of time, trouble, and money if he had simply spread SOL-SPEEDI-DRI, for this remarkable material soaks up oil and grease like a blotter soaks up ink. Even old, ground-in deposits give way to SOL-SPEEDI-DRI in time, restoring floors to near-new condition.

Meanwhile, fresh oil is kept off the floors, slipping accidents are eliminated, fire is retarded, and customer-relations are improved. You can toss your oily wrenches and other tools into a box of SOL-SPEEDI-DRI and when you want them again, they'll be oil-free. Thousands of shops are using this product to save themselves hours of back-breaking labor. It's great stuff! Write for literature and generous FREE SAMPLE.

SUPPLIERS: East—Refiners Lubricating Co., New York 1, New York.  
Midwest & South—Waverly Petroleum Products Co., Philadelphia 6, Pa.  
West Coast—Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.

**SOL-SPEEDI-DRI**  
OIL AND GREASE ABSORBENT



The Electric Auto-Lite Co. has produced a brilliant six-color poster showing a cut-away model of an Auto-Lite shielded aircraft spark plug. One feature of the spark plug is the internally cooled center electrode which is composed of a drawn nickel-alloy cap into which is fitted a brazed copper core.

## Joins Ad Agency

S. A. Pennock has joined G. M. Basford Co., advertising agency, New York, N. Y., as account executive. He has specialized continuously in automotive merchandising, sales, and advertising for more than a dozen years. Pennock brings to the organization an intimate knowledge of things automotive, and a sales promotion experience which has involved oil companies, automotive jobbers, and chain-store marketing.

## McCord Changes Name

Stockholders of McCord Radiator and Mfg. Co., at a recent special meeting, approved changing the name of the corporation to McCord Corp. They also approved, by a vote of holders of more than 80 per cent of each class of stock, a proposed recapitalization plan, calling for the voluntary exchange of 1 4/10 shares of \$2.50 dividend preferred stock and one share of common stock for each share of Class A stock outstanding.

## Visits Pacific Coast

H. P. Schade, sales manager of Arrow Safety Device, made a trip out to the West Coast during August. He stopped over at several points on the way out and back, making a survey of jobber and dealer problems.



## WILL SOON MAKE NEWS

New, finer, startlingly different SPRAYIT products will be ready for you shortly. Reflecting tremendous engineering advances brought about by war time developments, greatly increased research and production facilities, SPRAYIT will offer an outstanding line of spraying equipment, air compressors, spray guns, pumps, insecticide sprayers, air tools, sanders and allied finishing equipment.

The new ELSCO line of electric motors, generators, controls, hydraulic cylinders, valves,

controls for aircraft, automotive and other industrial applications will be introduced to American industry at the same time.

Both lines of new products will be made available through leading jobbers.

In winning our Army-Navy "E", SPRAYIT facilities were expanded, new equipment purchased and our personnel enlarged. The fine products you will soon be able to purchase from SPRAYIT will bring you the benefits of this great advancement.



Electric Motors, Generators, Compressors, Hydraulic Cylinders, Valves, Controls for Aircraft, Automotive, and other Industrial Applications.

# ELECTRIC SPRAYIT CO.

SHEBOYGAN, WISCONSIN



Paint Spraying Equipment, Air Compressors, Spray Guns, Pumps, Air Tools, Insecticide Sprayers, Sanders Finishing Equipment.



## GM to Retain Loyal Dealers, Coyle Promises

General Motors Corp. plans to continue in dealerships those dealers who have come through the wartime famine of new cars in good financial condition, M. E. Coyle, manager of the Chevrolet Division, told a press meeting in Detroit Sept. 12.

Answering a question posed by a west coast reporter, who said that dealers there are concerned over the number of factory executives taking over fertile franchises, Coyle said: "We have spent a lot of time and

money building our dealer organization and we want to hold it. We want the best dealers we can get, and those who have stuck by us and serviced our customers need not worry."

Charles E. Wilson, GM president, reported that difficulty in obtaining certain machine tools needed for automobile production is the major problem facing the industry during the reconversion period. He also listed two other trouble spots, namely, clearing of plants of government-owned machinery and inventories, and the lack of manpower to draw up materials specifications for sup-

pliers. Simultaneous production of war goods and automobiles will have to be carried on until the war with Japan is over, he said.

The Corporation is planning to spend \$500 million for reconversion and post-war expansion of machinery, buildings, and equipment. Production after the end of the Japanese war is expected to build up to 2,750,000 of the 6,000,000 cars looked for annually from the industry.

At the outset, only a few body styles will be built, with more added later as production facilities become available. Prices are expected to be about 20 per cent above the pre-war level, since it is a reasonable guess that they will increase about the same amount as truck prices have advanced during the war, due principally to higher labor costs.

## Named Nash Ad Chief

C. D. Wing has been appointed director of advertising and sales promotion of the Nash Motors Division of Nash-Kelvinator Corp., it was announced recently by H. C. Doss, vice president in charge of sales. Wing will maintain his office in the corporation's administrative headquarters at Detroit.

According to Doss, the appointment of Wing as director of advertising is in line with the corporation's previously announced post-war plans calling for major expansion of Nash Motors production of Nash cars in the lowest-price car field.

For 20 years Wing has been identified with leading national advertisers. A native of Kansas City, he is a former vice president of Barron's Advertising Co. of that city. He has served as account executive with McCann-Erickson, Inc., on Ford Motor Co. advertising, and, until his appointment as director of advertising of Nash Motors, was associated with Maxon, Inc. as an account executive.

## Notifies Candidate

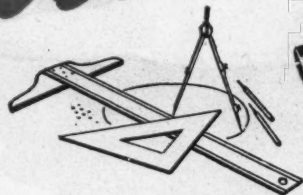
Clarence P. Bowers, president of the Bowers Battery & Spark Plug Co., of Reading, Pa., was a member of the National Democratic Committee calling on Senator Harry S. Truman at his birthplace, Lamar, Mo., officially notifying him of his nomination as vice presidential candidate of the Democratic Party on Aug. 31.

Bowers traveled to Lamar with Senator Joseph F. Guffey, of Pennsylvania, on the Senatorial train from Washington.

## Takes Detroit Zone

Arthur C. Sellgren, Cleveland zone manager for the last six years, has been made Detroit zone manager for the Buick Division of General Motors. He succeeds E. N. Steger, who is retiring.

# All Quiet-



Built right with  
**ENGINEERED  
CONSTRUCTION**

Different motors require vastly different internal construction to do the right tuning and silencing job. That's why AP ENGINEERED CONSTRUCTION is so important to you—it assures efficient silencing with minimum back pressure—a model designed RIGHT for the car or truck! The AP Parts Corporation, Toledo 1, Ohio.

# AP

MILEAGE GETTING

# MUFFLERS



# Know Vacdraulic and Sell *Feather Touch Stopability!*

Automotive men everywhere have their eyes peeled for new opportunities. Always fast moving, they are alert to new developments and the possibilities for added profits.

Keenly aware of the responsiveness to "SAFETY" — whether it concerns the owner of trucks or the driver of a passenger car — dealers see in the Vacdraulic Booster a product worthy of their marketing ingenuity.

On cars, trucks or busses, Vacdraulic split-second, feather-touch brake action reduces accidents, checks payload delays and is a definite "handling" asset.

In multiplying the power of any hydraulic brake, Vacdraulic accom-

plishes it without action lag. There is no lost motion — no rods or links to get out of adjustment. The braking action is quick, yet smooth and responds instantly to the lightest foot pressure.

## EASY TO INSTALL

Vacdraulic — the Brake Power Booster is complete. Only four simple steps are necessary for installation:

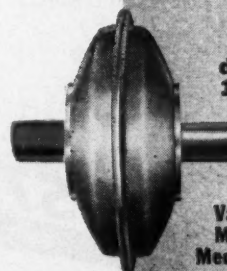
1. Mount Vacdraulic on the frame.
2. Connect to hydraulic line.
3. Connect to intake manifold.
4. Bleed hydraulic system.

May we send you complete details?  
EMPIRE ELECTRIC BRAKE  
COMPANY, Newark 7, New Jersey.



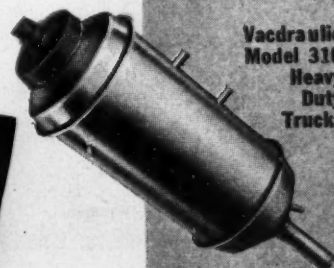
dia.  
7 1/4"

Vacdraulic  
Model 50  
Passenger Cars  
and Light Trucks



dia.  
12"

Vacdraulic  
Model 180  
Medium Trucks



Vacdraulic  
Model 310  
Heavy  
Duty  
Trucks

length 22"

# VACDRAULIC

THE BRAKE  
POWER  
BOOSTER

EMPIRE

PRODUCTS INCLUDE:

MAGDRAULIC • VACDRAULIC • POWER STEERING • RHEOSTATS  
Electric Brakes • Power Braking • DEVICES



## Holds Dealer Meetings

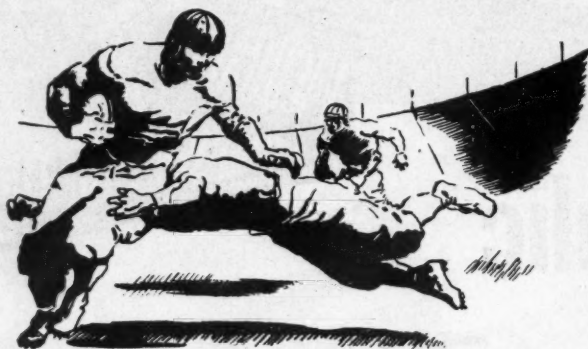
L. F. Van Nortwick, sales executive of the Dodge Division, Chrysler Corp., left Detroit Sept. 23 to conduct a series of dealer meetings in principal cities on the Pacific Coast. Chief subject will be the servicing of cars and trucks, both now and in the postwar period.

He had the following itinerary: Salt Lake City, Sept. 25; Spokane, Sept. 28; Seattle, Sept. 29; Portland, Oct. 2; San Francisco, Oct. 9, and Los Angeles, Oct. 16. In addition, sessions for factory field men are scheduled for Portland and Los Angeles.

C. S. Bash, of Los Angeles, and William A. Sellman, of Seattle, Dodge regional managers on the West Coast, have invited dealers to attend the meetings, which will be the first large-scale factory-dealer program in that area since the war.

## Sales Set Record

Clarence P. Bowers, president of the Bowers Battery & Spark Plug Co., Reading, has announced that sales of August, 1944, amounting to \$587,131.42, represented the largest monthly volume of sales in the history of the company.



## THERE'S ALWAYS ONE THAT'S TOPS...

Of the great coaches who have helped make football history, Knute Rockne tops the list. From 1918 to 1930 Rockne's Notre Dame teams played 122 games, won 105, tied 5... had an amazing 20-game winning streak in 3 successive seasons. Just as Rockne's name symbolizes all that's fine in college sports, the Blue Streak name signifies precision workmanship and peak performance in ignition parts. For Blue Streak products are engineered to overcome the weaknesses in design and construction of ordinary parts. They are built for enduring quality—tested for long, trouble-free service. Their high standards have rightfully won them "All-American" honors as the ignition parts that are tops



## STANDARD MOTOR PRODUCTS, INC.

37-36 NORTHERN BOULEVARD LONG ISLAND CITY, N.Y.



"It has two exhaust pipes—one for carbon, and one for monoxide."

## Opens Chicago Office

The opening of a direct Chicago sales office on Sept. 1, to be located in the Pure Oil Bldg., Wacker Drive and Wabash Ave., is announced by H. Church, vice president in charge of sales of The Weatherhead Company, Cleveland.

The new office will more conveniently serve the midwest territory, and will be headed by Charles T. Craig, formerly director of purchases for the company, working with Robert A. Lennox and C. V. Landwerlen, Weatherhead sales engineers.

## To Handle Exports

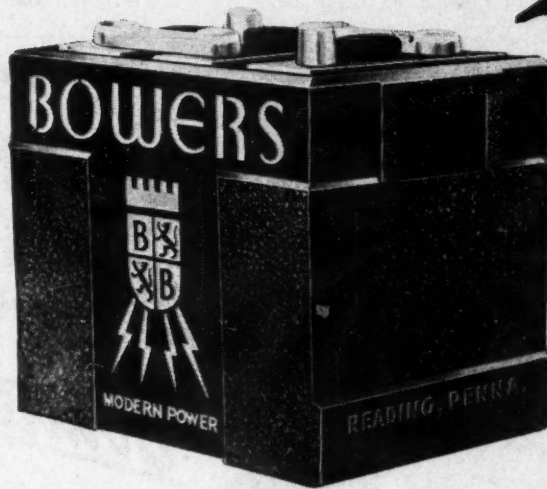
The Timken Roller Bearing has announced the appointment of Howard C. Sauer as general manager of its newly created Foreign Division, which will handle the sales and service of the company's products, bearings, steel, and detachable rock bits, in the world market outside the U. S. A. The division's offices will be in Canton, Ohio.

## Made Coach Manager

Appointment of Kenneth K. Koh-nitz as regional coach manager for Reo Motors, Inc., operating under the Philadelphia branch, was announced recently by Don C. Streeter, Reo general sales manager.



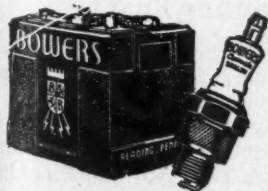
**"I've sold the rest,  
Now I'm selling  
the BEST..."**



I've found that an automobile dealer like myself has many good sources of supply. I'm contacted by lots of manufacturer's representatives and they all talk about plans, promotions, profits, etc.

And I'll say this—most of them are good sources of supply. But a dealer or service manager doesn't want to carry half a dozen lines of batteries and spark plugs. So it boils down to the selection of the one line which will do the best job for his customers and for himself.

In my case, I've sold several good brands. But I'm sticking to BOWERS. In addition to plans, promotions, profits, here's a manufacturer who builds **QUALITY** into every battery and spark plug. And today, **QUALITY** is the pay-off to *me*—and to *my customers*.



# BOWERS

**BOWERS BATTERY & SPARK PLUG CO.  
READING • PENNSYLVANIA**



## Sees Parts Shortage

Because the government has repeatedly denied the automobile parts industry priorities on materials, and production for manufacture of replacement parts, the situation now is critical, especially in the face of rapidly dwindling supplies of new cars, according to C. C. Carlton, vice-president of Motor Wheel Corp.

Speaking at a meeting of automobile manufacturers in Detroit recently, he suggested that the government lift restrictions on manufacture of automobile parts needed to keep ci-

vilian transportation moving, relax restriction on dealers' inventories, and give the industry a AA-1 priority on materials. He pointed out that one large manufacturer needs 100,000 units of a certain item, but that there is no authority to make them, even though the machines are available.

### Simon R. Zimmerman, Sr.

Simon Ralph Zimmerman, Sr., vice-president of Raybestos-Manhattan, Inc., died Sept. 18 at Lancaster, Pa.

Zimmerman formerly was president of the United States Asbestos Co.

## 20-Year Dealer Honored

An unusual tribute was paid an automobile dealer last month when fellow townsmen of Eli H. Stoltzfus, of Phoenixville, Pa., took two pages in the local daily newspaper to congratulate him on his 30th anniversary as an automobile dealer.

Stoltzfus, who operates the Phoenix Auto Sales Co., Chrysler-Plymouth dealer, first opened his doors as a dealer in automobiles on Sept. 14, 1914. His business has shown steady growth ever since.

The congratulatory ad was paid for by 17 different business firms, including other car dealers.

## Gets Heater Authority

The Electric Autolite Co., Toledo, has been granted permission by the WPB to manufacture 3500 automotive heaters during the third and fourth quarter of this year. The action is one of three "spot authorizations" granted in the Toledo District out of 26 applications made. The company has on hand a \$45,052 frozen inventory of partially fabricated heaters, and, with an additional \$4,680, will be able to complete liquidation of the inventory. Only five additional men will be needed, with high-school students working on a part-time basis.

## Sales Chief Appointed

Littleton C. Barkley, manager of the New York Office of The Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., has been appointed sales manager of the Manhattan Mechanical Rubber Goods Sales Dept. Barkley's appointment was announced by Harry E. Smith, general manager of The Manhattan Rubber Mfg. Division. For the present, his office will be located at 120 Broadway, New York City.

## Heads Coast Sales

The appointment of W. A. (Wally) Doepel as district sales manager of the Pacific Coast District has just been announced by R. L. Sears, sales manager of the Lynch Manufacturing Corp. of Defiance, Ohio. Doepel started in the automotive field back in 1923, working in a parts jobbing house. His territory will cover Arizona, California, Utah, Nevada, Idaho, Montana, Oregon, Washington, and British Columbia.

## Takes Jobber Post

H. V. Bodine, who for 10 years was Cincinnati branch manager for United Motors Service, has joined the C. & D. Auto Supply, Inc., Cincinnati, Ohio, as vice president and director of sales. For the last two years, Bodine had been district manager of the Automotive Division of the WPB.



**YES SIR!**  
**MARVEL**  
**MYSTERY OIL**  
*Has*  
*Something!*

... Yes! It has what it takes to provide the vital upper cylinder lubrication that will keep many an aging wartime motor going this Winter.

Marvel Mystery Oil has a fine record of success in heading off the troubles that result from inadequate lubrication in critical, high heat engine areas. For, where ordinary lubricants lose their effectiveness, Marvel Mystery Oil sustains its remarkable efficiency—it *reinforces* lubrication!

Have Marvel Mystery Oil ready for ALL your customers this Fall and Winter . . . added to oil and transmission, differential and steering greases, it insures quicker starts, easier shifting and steering. Added to today's low octane gas, it heads off the accumulation of power killing fuel residues and gums. Marvel Mystery Oil *has something* for you, too—an active demand and an assured profit! The Emerol Mfg. Co., Inc., 242 W. 69th St., New York 23, N. Y.



**MARVEL**  
**MYSTERY OIL**



# FOX HAS ALREADY DEVELOPED

## *Tomorrow's*

### RAPID BATTERY CHARGER!

The sensational FOX RAPID BATTERY CHARGER has *everything!*—everything that pre-war rapid chargers lacked . . . everything that a rapid charger should have.

Fox designers and engineers, drawing on experience and knowledge gained in producing Radar, Radio, and Electronic devices for military use, have designed and developed a rapid battery charger that incorporates the best features of present de-

vices—without any of their faults—plus patentable improvements and innovations . . . a streamlined rapid battery charger that has eye-appeal; that has been perfected electrically and mechanically.

It will pay you to plan *now* for the time when victory will permit distribution of the revolutionary FOX RAPID BATTERY CHARGER.



# FOX

PRODUCTS COMPANY  
PHILADELPHIA 41, PA.



**WAR CLOUDS**

**EIS**

**EMERGING FROM THE WAR CLOUDS**

**WE** hope that soon we will again breathe freely in a peaceful world.

We hope that soon we will be able to satisfy all the requests of our good customers.

We hope that our friends will bear with us, since we are producing all we can, under existing conditions.

**EIS MANUFACTURING CO.**  
MIDDLETOWN, CONN.

**BRAKE PARTS BRAKE FLUID BRAKE TOOLS**

**YOU COULD DO IT, TOO, IF YOU HAD SOUTHERN BRAKE-LINING**

REG. U.S. PAT. OFF.

**SOUTHERN**  
FRICTION MATERIALS CO. - CHARLOTTE, N.C.

#### CLASSIFIED ADVERTISEMENT

**WANTED:** Men familiar with fuel and lubricant application in automotive fleets. Maintenance experience desirable. Give complete description of experience. Statement of availability required. Box 18, Motor Age, Chestnut & 56th Streets, Philadelphia 39, Pa.

#### Post-War Plans Discussed

Post-war plans, calling for an all-time high car output and utilization to the fullest extent of employment of returning veterans in an expanded sales and service organization, were outlined recently at a conference of Packard Motor Car Co. regional managers, subsidiary heads and key distributors.

Sales Manager L. W. Slack, who directed the three-day program, said the field men, in session at the Book-Cadillac Hotel, represented the largest meeting of the group since Pearl Harbor. Nearly 100 attended.

Packard president and general manager George T. Christopher described the post-war sales goal Packard has established. He detailed production plans that reveal an all-time high of 200,000 cars per year "within 18 months after Packard gets the go-ahead."

Projected expansion of service facilities, Slack said, will center on surveys of Packard dealer shop equipment now being made from coast to coast. Dealer interest in facilities' improvement is running high, the sales director stated, and it is planned to make modern installations and replace worn out equipment "as soon as the government says okay."

Other discussion leaders during the three-day conference, besides Christopher and Slack, included assistant

sales manager C. E. Briggs, part and service manager K. M. Greiner and advertising manager Hugh W. Hitchcock.

#### Takes St. Louis Branch

James P. Roberts, for the last four years assistant manager of the Chicago branch of the Ford Motor Co. has been appointed manager of the St. Louis (Mo.) branch. Announcement of Roberts' appointment was made at Dearborn by J. R. Davis, director of sales and advertising.

Roberts joined the Ford Motor Co. in August, 1921, at the Chicago branch. He served in various capacities with the sales department, and later was made manager of the Chicago Lincoln division.

#### Division Chiefs Named

Three new divisional sales managers have been appointed by Hudson Motor Car Co. as part of its post-war sales expansion program. Those appointed and home offices and territories they will serve are: C. A. J. Hadley, Chicago, Northwest Division; E. J. Beguhn, Washington, D. C., Southeast Division, and W. S. Milton, St. Louis, Southwest Division. All are veterans in the Hudson organization. Hadley and Milton are former zone managers in Milwaukee and St. Louis, respectively, and Beguhn has served as a special factory representative.

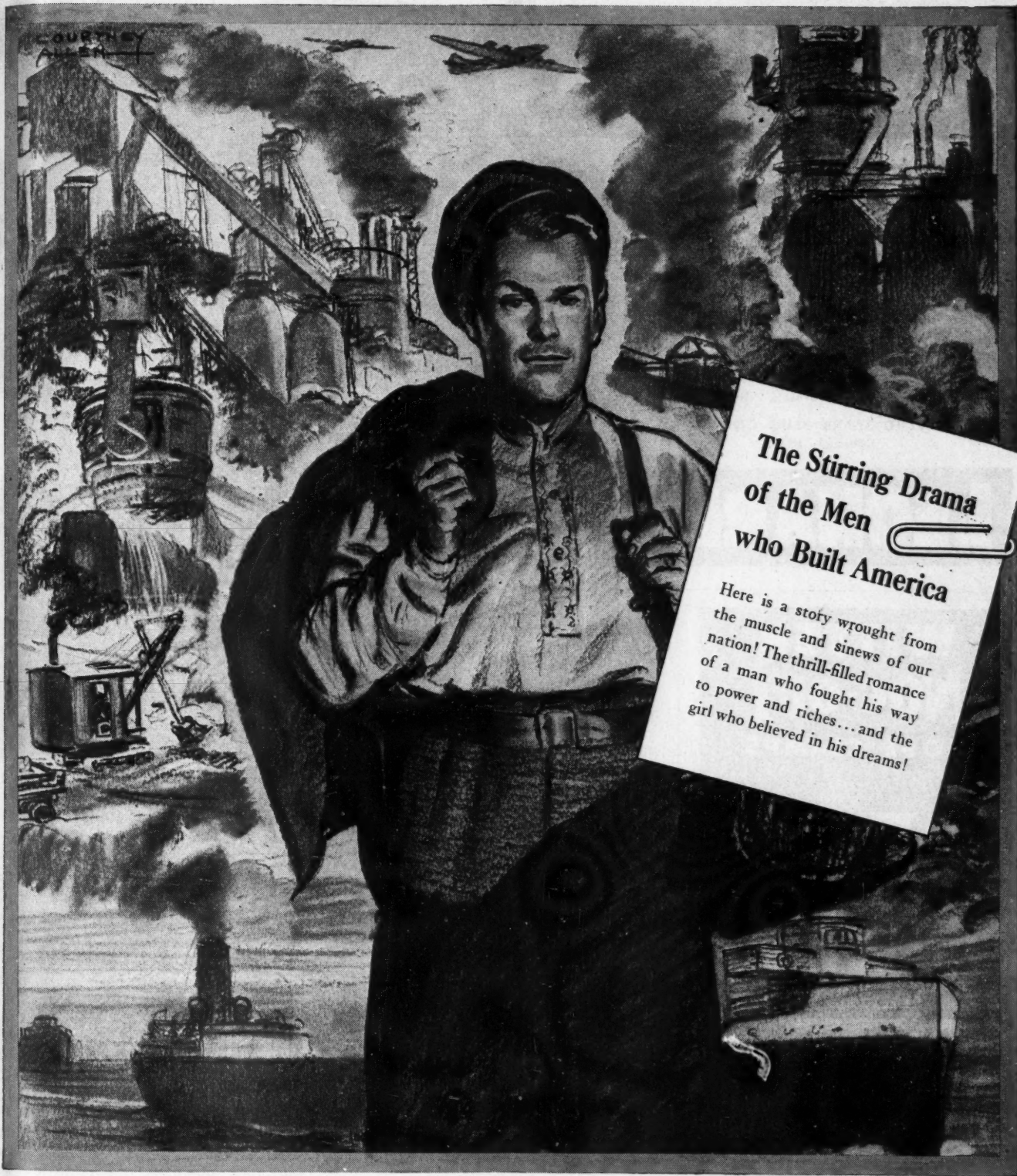
#### Picks New York Agents

The George Gorton Machine Co. of Racine, Wis., manufacturers for 50 years of precision machine tools, announces the appointment of Russell, Holbrook & Henderson, Inc., 292 Madison Avenue, New York, as exclusive representatives in the New England territory. Factory trained engineers are now available for consultation through the New York office and later from district offices, which will be announced. These offices will carry a comprehensive stock of Gorton accessories, tools and repair parts."

#### Stockholders at Peak

The total number of General Motors common and preferred stockholders for the third quarter of 1944 was 423,796 compared with 423,752 for the second quarter of 1944 and with 414,380 for the third quarter of 1943. The 1944 third quarter total is the highest in history.

There were 402,000 holders of common stock and the balance of 21,796 represents holders of preferred stock. These figures compare with 402,033 common stockholders and 21,719 preferred for the second quarter of 1944.



**The Stirring Drama  
of the Men  
who Built America**

Here is a story wrought from  
the muscle and sinews of our  
nation! The thrill-filled romance  
of a man who fought his way  
to power and riches...and the  
girl who believed in his dreams!

M-G-M PRESENTS KING VIDOR'S PRODUCTION IN TECHNICOLOR



# AN American Romance ★

starring **BRIAN DONLEVY**

with ANN RICHARDS • WALTER ABEL  
JOHN QUALEN • HORACE McNALLY

Screen Play by Herbert Dalmas and William Ludwig  
Produced and Directed by KING VIDOR • A Metro-Goldwyn-Mayer Picture



OCTOBER, 1944

When writing to advertisers please mention Motor Age

151



## Put an End to "GAP S-P-R-E-A-D"

REPLACE with Leonards and give your customers a spark plug that practically eliminates "gap spread" or widening between firing points.

Leonard special construction holds the original gap setting longer than any other plug. The gap can't change even if the ground wire moves (see large illustration).

Top performance assured, including heavy duty installations. Great for trucks—eliminates missing on a hard pull. On Chevrolets stops low speed "buck" and high speed "miss."

Write for new "Duration" Catalog

LEONARD SPARK PLUG CO., INC.  
NEWARK, N. J.



TOP PICTURE: Dotted line shows how electrodes of conventional plugs become separated through heat expansion.

LOWER: Leonard side-spaced electrodes maintain their original spacing — even if ground wire moves in vertical direction.

**LEONARD** PATENTED **air Cooled** **SPARK PLUGS**

## WITTEK NOC-OUT HOSE CLAMPS



For over 20 years standard of the automotive industry for dependable hose connections.

WITTEK MANUFACTURING CO.  
Chicago 23, Illinois

**WITTEK**  
**HOSE CLAMPS**  
Dependable Hose Connections



Since 1897

**UNITED STATES  
ELECTRICAL TOOLS**  
have never swerved from their  
original standards of **QUALITY  
AND SERVICE.**

**THE UNITED STATES  
ELECTRICAL TOOL CO.**  
CINCINNATI, OHIO

### Rubber Makers Elect

At a meeting of the board of directors of The Rubber Manufacturers Association, Inc., in New York, A. L. Viles was re-elected president.

To assist Viles in the administrative duties of the association, the board also announced the election of Warren S. Lockwood to the newly created post of executive vice president. Lockwood was formerly Rubber Attache for the State Department.

Viles pointed out that the increase in administrative personnel was necessary in order to meet the industry's increasing demand for service now and in view of post-war problems.

### Field Managers Named

The appointment of Walter James Cleland as Boston regional manager, succeeding Frank H. Wing, who retires to become associated with the Lawton-Hevessy Co., is announced by J. B. Wagstaff, general sales manager of De Soto Motor Corp. Cleland will supervise De Soto activities throughout New England.

Cleland has been associated with De Soto since April, 1936, serving in the New York region where he was instrumental in developing numerous large dealerships.

Wagstaff also has announced the appointment of six new De Soto district managers. They are Al Tuma, Detroit; A. E. Walbridge and C. L. Davis, New York; Vance Fish, Kansas City; E. J. Brodell, Cincinnati; and Homer Burger, St. Louis. All except Walbridge have had previous experience as De Soto district managers, their service having been in-

terrupted by the war. Walbridge has just been given his honorable discharge after two years in the U. S. Army Air Corps. He formerly owned a large automobile distributorship in New York.

### Goodyear Sales Up

Net sales of \$404,707,818 were reported by The Goodyear Tire & Rubber Co. for the first six months of 1944. This is an increase of 10.5 per cent over the same period of 1943.

Profits carried to earned surplus were given as \$7,491,078 and a letter accompanying the statement signed by P. W. Litchfield, board chairman, pointed out that while renegotiation of war contracts for the year ending December 31, 1943, has not been completed provision for the settlements of the year 1943 and the first half of 1944 has been made.

Regular dividends have been maintained on the \$5 convertible preferred stock and quarterly dividends of 50 cents per share were paid on the common.

### Packard Buys Plant

As the first step in its reconversion plan, the Packard Motor Car Co. has purchased a plant of the Bundy Tubing Co. at Detroit, George T. Christopher, Packard president, has announced. The building gives Packard 110,000 sq. ft. of additional floor space.

The new building will be used, after the transfer of necessary machinery, to machine Rolls-Royce aircraft engine crankcases, thus releasing sufficient space in the main plant to set up production later on of automobiles and replacement parts.

### Chosen Vice President

A. A. Kucher, director of research of Bendix Aviation Corp. and chairman of its long-range planning committee, has been elected a vice president, it has been announced by Ernest R. Breech, president.

Kucher is head of the corporation's central research laboratories in Detroit and has charge of investigating and developing new product activities and new business opportunities for Bendix through the long-range planning committee's work, it was stated.

### Named General Manager

John B. Moore has been named general manager of the Gaybex Corp., Nutley, N. J., manufacturers of degreasing and metal parts cleaning compounds. He was formerly with the Babbitt Industrial Specialties Co., as a development engineer, and was one of the founders of Namco, Inc., which was absorbed by Babbitt Industrial Specialties Co.

ge has  
le dis-  
U. S.  
owned  
ship in

ere re-  
& Rub-  
ths of  
0.5 per  
1943.  
surplus  
letter  
signed  
irman,  
tiation  
ending  
been  
settle-  
e first

main-  
ferred  
of 50  
on the

version  
Co. has  
Bundy  
ge T.  
t, has  
Pack-  
l floor

used,  
y ma-  
ce air-  
releas-  
plant  
of au-  
rts.

search  
chair-  
g com-  
presi-  
Ernest

ation's  
n De-  
gating  
ivities  
es for  
plan-  
stated.

er

e gen-  
Corp.,  
of de-  
aning  
with  
es Co.,  
d was  
, Inc.,  
tt In-

AGE



**For safety after dark**

Long before a stage galloped by at night you could hear it rattling up the valley and see its lanterns blinking along, warning other vehicles to keep clear. Proper lighting for safety after dark was important even then.

Today, National Safety Council figures show that most accidents occur after dark, and, of these the greatest single cause is improper lighting. Measured in terms of pos-

sible law suits, damage to equipment, and sometimes loss of life the cost of proper lighting is most insignificant.

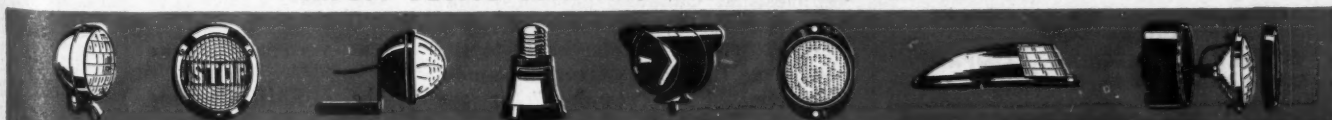
Like the Tail Lamp shown above, all Arrow products are built to give long, satisfactory service . . . and to meet State and I.C.C. requirements. "For Safety After Dark" ask your Jobber salesman for Arrow Lights, or send for catalog.

FOR SAFETY

**ARROW**

AFTER DARK

SAFETY DEVICE COMPANY, MOUNT HOLLY, NEW JERSEY







JARO FABRY

"Here's your new copy of TRUE, Mr. Smithers—and I've cancelled all your appointments for this afternoon."



**STOP**  
PISTON SLAP  
OIL PUMPING  
MOTOR NOISE

WITH

**MASTER RECAMS**

MASTER RECAMS are individually designed for all late model cars; easily installed without removing pistons. The profitable way to Stop Piston Slap, Oil Pumping and Motor Noise.

**50¢ EACH**

REGULAR DISCOUNTS TO JOBBERS AND DEALERS

**WHERRY ENGINEERING COMPANY**  
3227-29 Morganford Rd., ST. LOUIS 16, MO.



## Plant Men Move Up

The Wickwire Spencer Steel Co. has announced three important changes in its plant operating personnel. M. G. Werme, formerly superintendent at the Clinton, Mass., plant, has been appointed chief development engineer of the company. Gordon Lloyd, has been appointed superintendent at the Clinton plant. Victor Chartner has been appointed chief mechanical engineer of Wickwire Spencer.

## Rejoins Old Firm

Capt. Andrew Anderson, of the Ordnance Dept. Reserve, U. S. Army, has been released from active duty in the New York Ordnance District to become manager of engineering for the Special Products Division of Thomas A. Edison, Inc., at West Orange, N. J.

He has been in charge of inspection of ammunition manufactured in the greater New York area and has completed many special assignments for Army Ordnance.

## Made Chief Engineer

The appointment of David J. Bonawit as chief engineer of the Marshall-Eclipse division of Bendix Aviation Corp. was announced recently by Frederic Weyburne, general manager.

Bonawit, who has had 22 years' experience in research, development and production of frictional materials for brakes and clutches, will direct engineering projects in the division's laboratories.

## Heads Bus Sales

Appointment of H. D. Mallison as manager of Mack bus sales in the southern division with headquarters at Atlanta, Ga., has been announced by R. A. Hauer, vice president in charge of bus sales for the Mack-International Motor Truck Corp.

Mallison joined the Mack organization Sept. 1st after 20 years with the sales forces of the National Pneumatic Co., Philadelphia.

## Builds 250,000 Jeeps

A quarter of a million "jeeps" have rolled off the Willys-Overland assembly lines since production of the versatile scout car was started in June, 1941, it was revealed Sept. 21 by Ward M. Canaday, chairman of the board.

In announcing this milestone in the vehicles, M. Canaday explained that his company has contributed more than 40 "major" developments to the jeep since the Willys-Overland model was selected as "standard" by the Army in July, 1941.

**FITZGERALD**  
GASKET CRAFTSMEN SINCE 1908  
**GASKETS**

*The complete line  
that completely satisfies*

The Fitzgerald Manufacturing Company  
Torrington, Conn.

THERE IS A GUARANTEED

**Pedrick**  
ENGINEERED SET

of PISTON RINGS  
FOR EVERY CAR, TRUCK,  
BUS, AND TRACTOR

## REWOUND ARMATURES

FOR ALL POPULAR MAKE CARS  
IMMEDIATE DELIVERY  
ALSO RECONDITIONED USED  
ARMATURES AND PARTS

We stock only genuine used parts. All are thoroughly tested and cleaned with the most modern methods and equipment. Each part carries our money-back guarantee.

Write for price list B

**HASCO PRODUCTS, INC.**  
131 Park Ave., Lyndhurst, New Jersey



**Snap-on Tools**  
THE CHOICE OF BETTER MECHANICS

**LUBAID**  
★ **SPEED**  
**PENETRANT..**

Low in price — tops in quality. A fast acting penetrating oil for shop use. Dealer's price \$1.25 per gal. (glass jug containers for duration). Call your jobber—he can serve you.

The LUBAID Company  
Milwaukee 1, Wis.



# OPPORTUNITY *LIES AHEAD*

An opportunity which has never come before ... and one which none of us in the automobile business may ever see again.

***Hudson Will Be Ready For It***



Hudson workers who have twice won the Army-Navy Production Award, and who fly the Bull's-eye Flag for bond purchases, urge you to Buy War Bonds to the Limit

## HUDSON

MOTOR CAR COMPANY

DETROIT 14, MICHIGAN

***35 Years of Precision Manufacture***



Distributors and dealers, with finance and press representatives, "look ahead with Hudson" at a Detroit meeting. Distributors and dealers were congratulated on the

splendid job they have done in keeping essential transportation rolling. .. and were urged to step up their own planning for the postwar opportunity ahead.

OUR PLANTS ARE DEDICATED TO WAR PRODUCTION . . . OUR DEALERS TO MAINTAINING WAR TRANSPORTATION

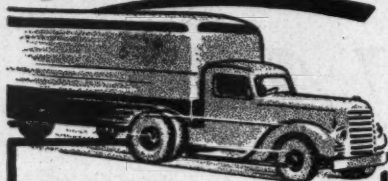
OCTOBER, 1944

*When writing to advertisers please mention Motor Age*

155



**KEEP 'EM  
ROLLING!**



**NO TIME FOR  
BEARING FAILURES!**

**LINK-BELT**



**ROLLER BEARINGS**

Assure free rolling performance and long life service under today's severe conditions. Extra load capacity and self alignment are inherent features.

Made by makers of the famous Link-Belt Silverstreak Silent Timing Chain.

9458

**LINK-BELT COMPANY**

519 N. Holmes Ave., Indianapolis, Ind.  
Warehouses in all principal trading centers

**PRACTICAL  
AUTO  
INFORMATION**

Keeps Cars Rolling by Making Repairs and Adjustments Easy!



Every Mechanic & Repair Shop Needs

**AUDELS AUTO GUIDE**

Sent on 7 days trial.

Shows How to Tune

Up—Keep Brakes Safe—

Batteries Powerful—Tire

Mileage Up—Save Gas—

Lubricate Correctly.

**ANSWERS QUESTIONS**

Contains all you need to

know about

1—CONSTRUCTION

2—OPERATION

3—SERVICE

4—REPAIR of Modern Mo-

tor Cars, Trucks, Buses &

DIESEL ENGINES in every detail.

**NEW FLUID DRIVE FULLY TREATED**

Easy to understand—1540 Pages, 1540 Illustrations.

Gives directions on How to handle service jobs.

**\$4 COMPLETE, PAY ONLY \$1 A MONTH**

ASK TO SEE IT!—Get this information for yourself—

simply fill in and mail coupon today.

**AUDELS Publishers, 49 W. 23rd St., N.Y.**

Mail AUDELS AUTOMOBILE GUIDE (34) for free exam-

ination. If O. K., I will send you \$1 in 7 days; then remit

\$1 monthly until \$4 is paid. Otherwise I will return it.

Name \_\_\_\_\_

Address \_\_\_\_\_

Occupation \_\_\_\_\_

Reference \_\_\_\_\_ AGE \_\_\_\_\_

**BUELL AIR HORNS**



One of the accessories of the "Car of the future" is a pair of Buell High Pressure Air Horns. Drive with a feeling of security due to the effectiveness of a really powerful emergency signal.

**BUELL MANUFACTURING CO.**

2991 Cottage Grove Ave., Chicago, Illinois

### Designer Joins Reo

Karl Probst, engineering designer, who has been identified with the automotive industry since 1906, has been appointed to handle special assignments in Reo's research department, according to an announcement by Reo Motors, Inc.

Probst was formerly associated with Reo in 1908 in the engineering department. Later, after considerable experience in the Midwest, he became head of Probst, Shoemaker, Merrill, automotive consulting engineers in Detroit. In 1940, he was called to American Bantam Car Co., Butler, Pa., by WPB as consulting engineer.

### War Council Honored

For its outstanding cooperative service to businessmen during the war, the Automotive Council for War Production has been awarded honorable mention by the American Trade Association Executives.

The council, representing more than 500 automotive companies, has contributed much of value to the successful prosecution of the war, the trade executives declared.

### Develops Plastic Tire

Firestone Tire & Rubber Co. announces development of a "heat-treated" all-plastic tire, designed to combat heat, one of the chief causes of tire wear. The company states that additional laboratory examinations and road tests will have to be completed before it can be ascertained whether the new tire will be a competitor of rubber tires. The plastic product closely resembles the rubber tire in appearance. It does not crack in sunlight and is not soluble in gasoline.

### Army-Navy "E" Awards

Skinner Purifiers, Inc., Detroit, Mich. The Gabriel Co., Cleveland, Ohio.

Diesel Engine Division, General Motors Corp., Detroit, Mich.

Heller Brothers Co., Newcomers-town Ohio. (Second star)

Gould Storage Battery Corp., Depew, N. Y. (Second star)



### SPEED UP YOUR HYDRAULIC BRAKE CYLINDER REPAIR WORK

Every mechanic should own one of these tools. The accumulation of muck and scale is quickly removed and the brake cylinder polished to a mirror finish in a few seconds.

**YOUR MECHANICS** can eliminate wasteful trips to have brake cylinders honed. Do this job in your own shop. The tool will service 80% of cars manufactured and sells for \$3.25 from your jobber and is available on an AA5 priority rating or higher.

Sold by Leading Jobbers Everywhere

**The HYLAND Manufacturing Co.**  
818 JOHN ST., PORTSMOUTH, OHIO

**BALDOR**

ST. LOUIS, MO.

**BATTERY CHARGERS  
BATTERY TESTERS  
SHOP GRINDERS  
ELECTRIC MOTORS**



**Bonney Forge & Tool Works**  
Allentown, Pa.

**TOP QUALITY..**

**LOW  
PRICE**



*Wiry Joe*

**Wire and Cable**  
Pawtucket, R. I.



**VICTOR**  
GASKETS, OIL SEALS  
GREASE RETAINERS